



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

LANE MEDICAL LIBRARY STAMFORD STOR
T71 .P62 1878
An elementary treatise on diseases of th



24503366094

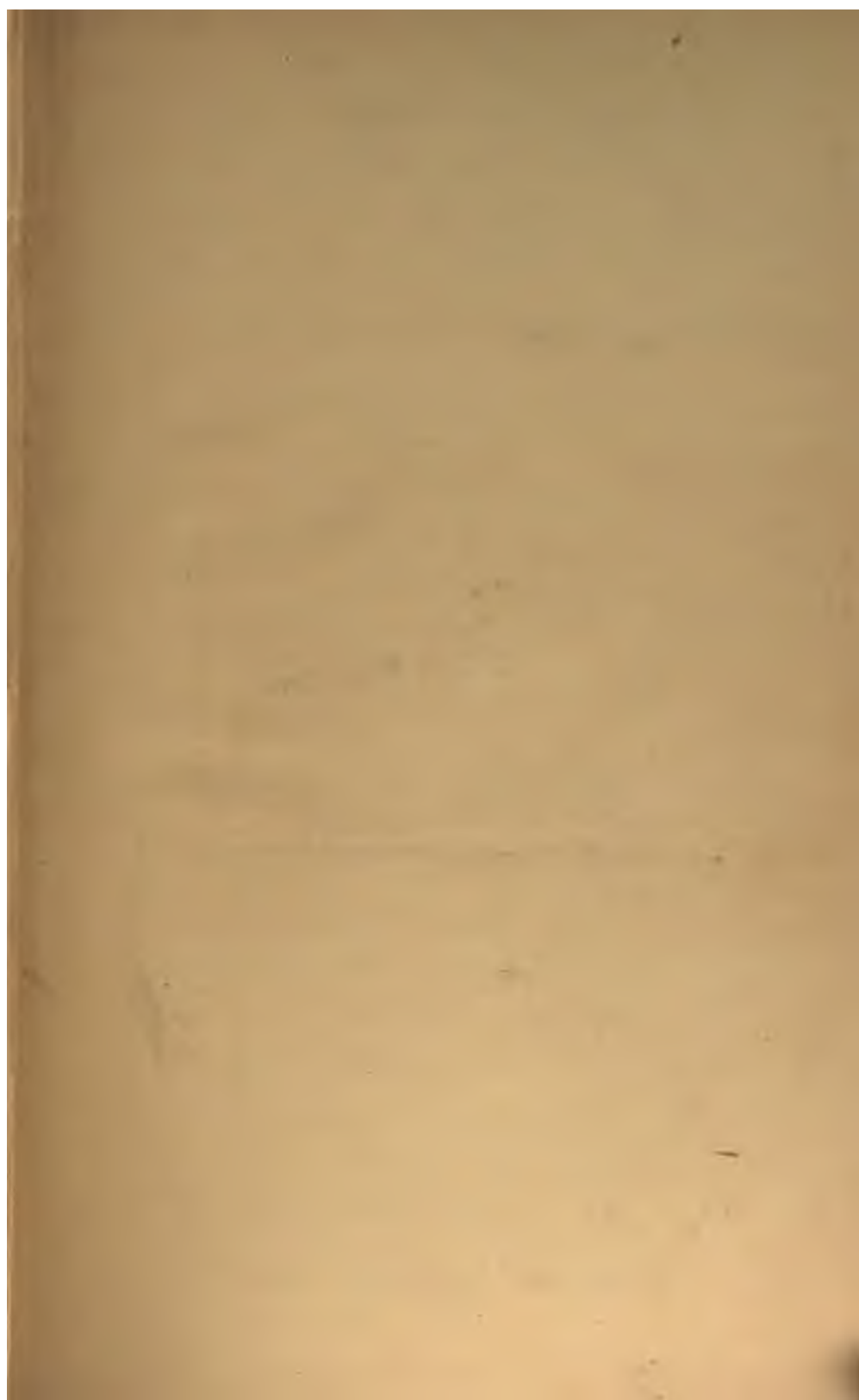
LANE

MEDICAL



LIBRARY

LEVI COOPER LANE FUND





Robert H. H. H.

John H. H.

and

Charles D. Smith.
of the

OF THE SKIN
EFFARD

W. A. H.

Dr. Charles D. Smith.
Compliments

DISEASES OF THE SKIN

PIFFARD

AN
ELEMENTARY TREATISE
ON
DISEASES OF THE SKIN,
FOR THE USE OF
STUDENTS AND PRACTITIONERS.

BY
HENRY G. PIFFARD, A.M., M.D.,
*Professor of Dermatology, University of the City of New York; Surgeon to the
Charity Hospital, to the New York Dispensary for Diseases
of the Skin, etc., etc.*



WITH ILLUSTRATIONS.

London & New York :
MACMILLAN AND CO.

1876.

R

Entered according to Act of Congress, in the year 1876, by
HENRY G. PIFFARD, M.D.,
In the Office of the Librarian of Congress at Washington.

Y&A&B&C&D&E&F&G&H&I&J&K&L&M&N&O&P&Q&R&S&T&U&V&W&X&Y&Z

*B. Hermon Smith, Stereotyper,
Ithaca, N. Y.*

*J. F. Trow & Sons, Printers,
205-213 E. 12th St. New York.*

TO THE PRESIDENT AND TRUSTEES
OF THE
NEW YORK DISPENSARY FOR DISEASES OF THE SKIN,
WHOSE LIBERAL MANAGEMENT OF THE INSTITUTION UNDER
THEIR CHARGE HAS ENABLED ITS PHYSICIANS TO
PURSUE LINES OF INVESTIGATION AND
RESEARCH, OTHERWISE IMPRAC-
TICABLE, THIS VOLUME

Is Respectfully Inscribed.

THE AUTHOR.

PREFACE.

IN the following pages the author has endeavored to provide for the Student a guide to the study of elementary Dermatology, and to afford the Practitioner assistance in the recognition and treatment of Cutaneous Diseases. In the effort to carry out this object, he has availed himself largely of the classic literature of the subject, adding thereto such personal experience as appeared to him advisable. Acknowledged facts have been stated in the form of distinct propositions, while unsettled questions have been indicated as such, and the probabilities concerning them fairly considered. The present volume is intended to serve as an introduction to the more elaborate works upon Dermatology, and to save the beginner from some of the pitfalls which beset the writer's earlier studies. In some instances elegance of expression has been sacrificed to brevity, a fault which it is hoped the reader's indulgence will con-

done. With their various imperfections, however, the author still hopes that the following pages may incite a deeper interest in a subject which has proved so fascinating to himself.

10 *West 35th Street,*
March, 1876.

H. G. P.

CONTENTS.

	PAGE.
CHAPTER I—	ANATOMY OF THE SKIN, . . . 1
CHAPTER II—	PHYSIOLOGY OF THE SKIN, . . . 25
CHAPTER III—	PATHOLOGY OF THE SKIN, . . . 29
CHAPTER IV—	SYMPTOMATOLOGY, . . . 33
CHAPTER V—	DIAGNOSIS, . . . 37
CHAPTER VI—	CLASSIFICATION, . . . 46
CHAPTER VII—	THE SYPHILIDES, . . . 58
CHAPTER VIII—	THE SCROFULIDES, . . . 75
CHAPTER IX—	THE SCROFULIDES (<i>continued</i>) . . . 103
CHAPTER X—	THE RHEUMIDES, . . . 124
CHAPTER XI—	ECZEMA, . . . 143
CHAPTER XII—	ECZEMA (<i>continued</i>), . . . 161
CHAPTER XIII—	PSORIASIS, . . . 177
CHAPTER XIV—	PITYRIASIS, . . . 192
CHAPTER XV—	LEPROSY, . . . 200
CHAPTER XVI—	ICHTHYOSIS, . . . 213
CHAPTER XVII—	GENERAL NON-DIATHETIC AFFECTIONS, 219
CHAPTER XVIII—	ACNE, . . . 220
CHAPTER XIX—	ROSACEA, . . . 231
CHAPTER XX—	URTICARIA, . . . 237
CHAPTER XXI—	ZOSTER, . . . 240
CHAPTER XXII—	HERPES, . . . 245

CHAPTER XXIII—	XANTHOMA,	PAGE. 248
CHAPTER XXIV—	CHLOASMA,	253
CHAPTER XXV—	SCABIES,	256
CHAPTER XXVI—	PHOTHERIASIS,	264
CHAPTER XXVII—	FAVUS,	268
CHAPTER XXVIII—	TRICHOPHYTOSIS,	273
CHAPTER XXIX—	PHYTOSIS VERSICOLOR,	281
CHAPTER XXX—	ALOPECIA AREATA,	285
CHAPTER XXXI—	IMPETIGO CONTAGIOSA,	296
CHAPTER XXXII—	INTERTRIGO ; NÆVUS ; FURUNCLES ; VERRUCE,	302
CHAPTER XXXIII—	ERYTHEMATA,	311
CHAPTER XXXIV—	ELEPHANTIASIS (<i>Arabum</i>)	318
CHAPTER XXXV—	KELOID,	326
CHAPTER XXXVI—	LICHEN PLANUS ; LICHEN RUBER ; LI- CHEN SCROFULOSORUM,	330
CHAPTER XXXVII—	MOLLUSCUM FIBROSUM ; MOLLUSCUM CONTAGIOSUM,	340
CHAPTER XXXVIII—	PEMPHIGUS ; PURPURA ; PRURIGO,	347
CHAPTER XXXIX—	SCLERODERMA ; SCLERIASIS,	361
CHAPTER XL—	STROPHULUS ; VITILIGO,	369

LIST OF ILLUSTRATIONS.

PHOTO-MICROGRAPHS.

PLATE I—	Section of Finger-Nail,	<i>to face page</i>	24
PLATE II—	Sections of Scrofulides,	“ “	113
PLATE III—	Sections of Rosacea,	“ “	236
PLATE IV—	Sections of Elephantiasis,	“ “	325
PLATE V—	Section of Keloid,	“ “	329

WOOD CUTS.

FIG. 1—	Fibrillar connective tissue,	<i>page</i>	2
FIG. 2—	Yellow elastic tissue,		2
FIG. 3—	Prickle cells of the rete,		3
FIG. 4—	Cells of the horny epidermis,		3
FIG. 5—	Section of skin from the arm,		4
FIG. 6—	Papillæ of the palm of the hand,		5
FIG. 7—	Papillæ of the back of the hand,		5
FIG. 8—	Vertical section of the epidermis of the palm,		6
FIG. 9—	Cells of the stratum corneum and rete Malpighii,		6
FIG. 10—	Fusiform and prickle cells from the upper part of the rete,		9
FIG. 11—	Pacinian corpuscles,		12
FIG. 12—	Papillæ of the palm and Meissner's corpuscles,		13
FIG. 13—	Sweat-gland,		14
FIG. 14—	Sebaceous glands of the first class,		17
FIG. 15—	Sebaceous glands of the second class,		18
FIG. 16—	Sebaceous glands of the third class,		19
FIG. 17—	Structure of the hair and root-sheaths,		20

FIG. 18—Transverse section of the hair-root and follicle,	<i>page</i> 20
FIG. 19—Arectores pilorum,	22
FIG. 20—Scheme of the principal lesions,	30
FIG. 21—Skin microscope,	40
FIG. 22—Skin-grafting scissors,	42
FIG. 23—Cutisector,	43
FIG. 24—Surface thermometer,	43
FIG. 25—Æsthesiometer,	44
FIG. 26—Section of syphilitic papule,	65
FIG. 27—Tubercular scrofulide (<i>Lupus exedens</i>),	101
FIG. 28— <i>Lupus erythematosus</i> ,	104
FIG. 29—Hypertrophic tubercular scrofulide,	110
FIG. 30—Sharp spoon,	118
FIG. 31—Caustic needle,	120
FIG. 32—Section of Eczema papule,	162
FIG. 33—Section of infiltrated skin from chronic eczema,	164
FIG. 34—Epilation forceps,	175
FIG. 35—Section of Psoriasis,	184
FIG. 36—Scales from Pityriasis infiltrated with spores,	195
FIG. 37—Cells from Leprous tubercle,	203
FIG. 38—Section of Leprous tubercle,	204
FIG. 39—Transverse section of ulnar nerve (<i>Leprosy</i>),	205
FIG. 40—Isolated fibrillæ from the ulnar nerve (<i>Leprosy</i>),	206
FIG. 41—Section of Ichthyotic skin,	216
FIG. 42—Comedon extractor,	225
FIG. 43—Section of milium,	226
FIG. 44—Perpendicular section of Zoster vesicle,	242
FIG. 45—Fungus found in <i>Impetigo contagiosa</i> ,	298
FIG. 46—Carroll's vaccinator,	305
FIG. 47— <i>Lichen ruber</i> ,	335
FIG. 48— <i>Lichen ruber</i> ,	336
FIG. 49— <i>Molluscum fibrosum</i> ,	341

DISEASES OF THE SKIN.

CHAPTER I.

ANATOMY OF THE SKIN.

A knowledge of the minute anatomy of the skin is an absolute necessity to those who desire a perfect understanding of its *lesions* or deviations from normal structure.

The skin, like most of the other tissues of the body, is composed of fibres and cells, and contains certain organs; of which some, as the vessels, nerves and lymphatics, are shared by it in common with other parts, while others are special to the skin itself.

The fibres of which the skin is mainly composed, are of two kinds, namely: the fibrillar connective or white fibrous tissue (Fig. 1), secondly, the yellow elastic fibres (Fig. 2). The special peculiarities of these white and yellow fibres may be learned from works on Histology, but attention should be called to the fusiform bodies met with in connection with the white fibrous tissue. These are the so-called connective tissue corpuscles, which, though relatively not abundant in the normal adult skin, in certain diseases, however, as we shall hereafter see, are found to play a very important part.

These two sorts of fibres mingled together, the fibrillar connective tissue being greatly in excess, constitute the main substance of the skin, and endow it with strength derived from the white, and elasticity from the yellow fibres.

Fig. 1.

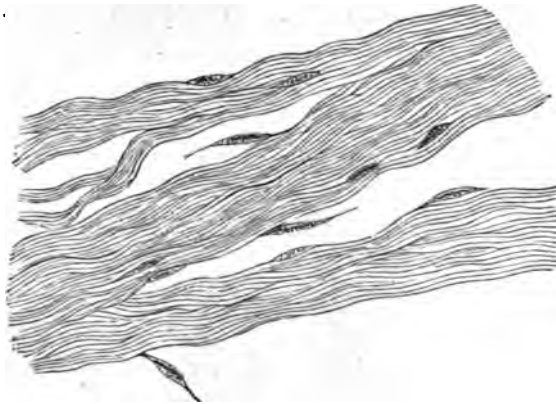


Fig. 1—Fibrillar connective tissue (STRICKER).

Fig. 2.

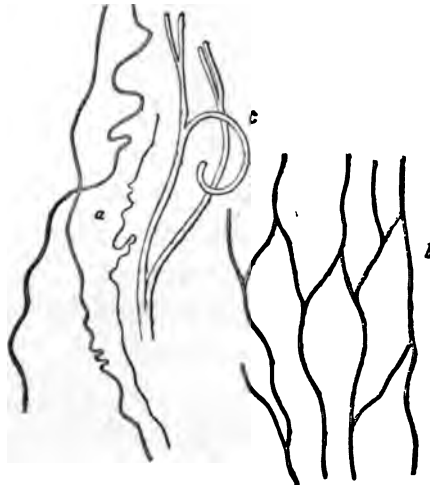


Fig. 2—Yellow elastic fibres (FREY).

The cells which contribute to the structure of the skin are likewise of two sorts: first, those which are termed cells of the Rete or Stratum Malpighii, and secondly, those of the Stratum Corneum or horny epidermis.¹

The cells of the rete are irregularly globular or polygonal, and many of them are thickly set with short asperities or denticulations, giving them a close resemblance, except as to size, to a chestnut burr, (Fig. 3). These are termed "prickle cells." Some of the rete cells are cylindrical rather than globular. All of them contain nuclei.

The cells of the horny epidermis or stratum corneum, as it is called, are flattened, are larger than those of the rete, have no denticulations, and possess a scarcely perceptible nucleus or none at all (Fig. 4).

Fig. 3.



Fig. 3—Prickle cells of the rete.

Fig. 4.



Fig. 4—Non-nucleated cells
of the horny epidermis
(FREY).

These four elements, the two kinds of fibres and two kinds of cells constitute the main structure of the skin, and afford support to the special organs upon whose integrity many of the important functions of the skin depend. Let us now consider how these elements are arranged. The diagram (Fig. 5) will give us an idea. We see at a glance that the skin is divided anatomically into three portions, the deepest and by far the thickest portion, called the derma,

¹ There is possibly a third variety of cell, to be referred to hereafter, page 9.

corium, cutis vera, or true skin, is constituted by the interlacement of the connective tissue and elastic fibres.

Fig. 5.

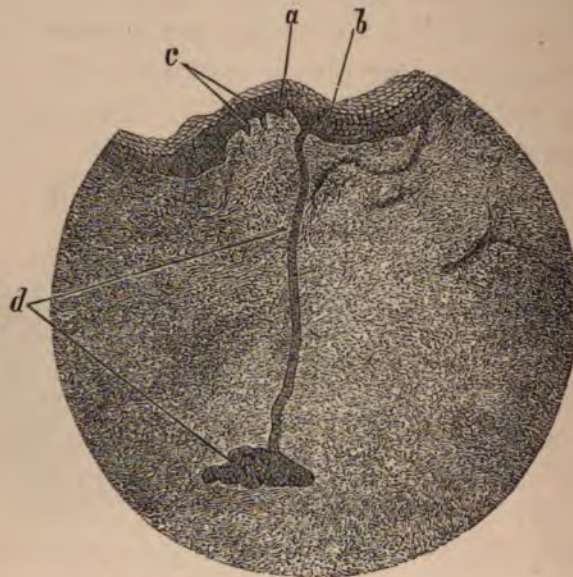


Fig. 5—Section of skin from the arm of an infant (from a photomicrograph by the author). *a*, stratum corneum, *b*, strat. Malpighii, *c*, pars papillaris, *d*, sweat gland and duct, all the rest, cutis vera.

Internally these fibres form a loose network, circumscribing areolæ or meshes of considerable size, in which fat vesicles and other organs are sometimes lodged. Externally, however, the network gradually becomes closer, and the meshes smaller, until in the most external portions the tissue presents a closely-knit and dense appearance.

We notice further that the external surface of the corium is not smooth and level, but presents numerous ridges and elevations. These elevations are termed the *papillæ*, and

the portion of the derma embraced by them is usually called the papillary layer or *pars papillaris* (Fig. 5c). The number of these papillæ is very great, in many places exceeding 60,000 to the square inch, which, for the whole surface of the body, would give about 150,000,000 (SAPPEY).¹

The papillæ differ greatly in size and appearance in different parts, the largest being found about the female nipple and upon the corona glandis. The next in size, occur upon the palmar surfaces of the fingers, while still smaller ones abound upon the palms of the hands and soles of the feet, upon the lips, the female genitals, the surface of the glans penis, and upon the dorsal surfaces of the hands and feet.

Fig. 6.



Fig. 6—Papillæ of the palm of the hand (HASSAL).

Fig. 7.

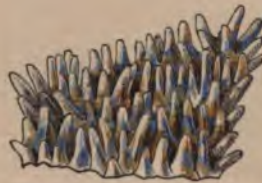


Fig. 7—Papillæ of the back of the hand (HASSAL).

The smallest are found over the general surface of the body. Except about the hands and feet, and a few other places, the papillæ do not seem to have any very definite arrangement.

Next to the papillæ, from within outward we encounter the rete Malpighii, the cells of which fill up the intervals between the papillæ and extend somewhat beyond their summits, so that this layer presents externally a tolerably smooth and level surface. The cells of this layer are mainly

¹ *Traité d'Anatomie*, t. III. Paris, 1872.

of the globular sort, except the innermost layer in contact with the papillæ, which are of the cylindrical variety. These cylindrical cells touch the papillæ by their ends; next to them come the globular, and beyond them again a few oval cells (Figs. 8 and 9). The cells of the rete, and especially

Fig. 8



Fig. 8—Vertical section of the epidermis of the palm of the hand (SAPPEY). 1, horny layer composed of non-nucleated cells. 2, rete Malpighii. 3, upper portion of the rete. 4, descending portion of the rete. 5, parts corresponding to the papillæ.

Fig. 9

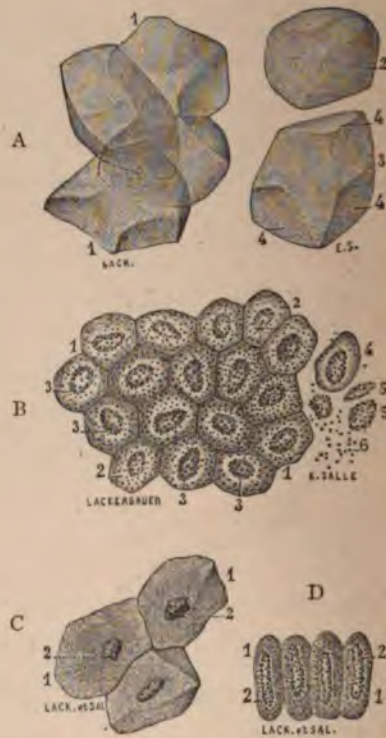


Fig. 9—Cells of the stratum corneum and strat. Malpig. (SAPPEY). A, cells of horny layer. B, cells of the deep layer of the strat. Malpig. viewed from below. C, cells of upper layer of strat. M. D, cylindrical cells of the deep layer.

the deeper layers, are the seat of the cutaneous pigment, the brownish substance which gives a distinctive color to the skin. This pigment, in a granular form, is chiefly deposited in and about the nuclei of the cells, and varies greatly in different individuals, being deficient in the Albino, and existing in great abundance in the skin of the negro, (Fig. 9).

External to the rete, and separated from it by a pretty distinct line of demarkation, we encounter the stratum corneum or horny layer of the epidermis. This layer is composed of cells which in the deeper parts are polygonal with sometimes a trace of nucleus, but as we proceed outward the cells become flatter, more closely pressed and without nuclei.

The epidermis, consisting of the stratum corneum and the stratum Malpighii, varies in thickness in different parts of the body, being notably thickest upon the hands and feet. According to AUSPITZ,¹ the thickness of the epidermis varies with the length of the underlying papillæ, that is, where the papillæ are longest the epidermis is thickest, and *vice versâ*.²

It is stated by most writers upon the subject, that the horny layer of the epidermis is derived from the Malpighian, in other words, that the cells which at one time occupied positions in this latter layer, afterwards become cells of the stratum corneum, being pushed outward by new cells forming beneath them. *This I believe to be an error. Cells of the rete always remain such, and do not become horny, and the cells of the horny layer never were cells of the rete. Each layer is regenerated independently of the other.*

¹ Archiv für Dermatologie und Syphilis, B II. H I.

² However this may be as regards normal, it is not always true of morbid skin.

The following are among the reasons which induce me to reject the prevalent notion, that the horny layer of the epidermis is regenerated by the gradual progression outward of the cells of the rete. In the first place there is no gradual change of character, or blending of the one with the other, but there is always a very evident line of demarcation, rendered if possible more distinct by the action of certain reagents and staining solutions. My attention was first particularly attracted to this line of separation, about six years ago, in some sections from a leprous stump which had been stained with carmine, and the excess of carmine removed with hydrochloric acid. In these sections, the cells of the rete, and of the horny layer, were exceedingly distinct, but between the two was a narrow layer which did not retain the carmine, and which was characterized by extreme transparency, with the exception of certain small oval collections of very fine granules, arranged with their long axes in the horizontal plane, suggesting the idea of nuclei of cells, the contours of which however were not apparent. This appearance I have met with several times with more or less distinctness, and pointed it out to Prof. F. N. OTIS in some sections of prepuce near chancres, which he was good enough to show me in 1872. I find however that this transparent line has been previously noticed and its characters described by OEHL,¹ who called it the "stratum lucidum." More recently LANGERHANS² has studied this stratum with care, and describes it as a narrow layer, generally consisting of two rows of cells, characterized by fine transverse striations.

¹ Indagini di anat. micro. per servire allo studio dell'epidermide e della cute palnare, Milano, 1857.

² Archiv für micro. Anat., B IX. S. 741.

Underneath this lucid stratum we meet with another layer of peculiar cells, which are usually described as belonging to the cells of the upper part of the rete. This layer is likewise two or three cells thick, and the cells differ from those of other parts of the rete in the most marked manner. They are fusiform, with their long axes in the horizontal plane, without prickles, and absorb carmine more readily than the rete cells beneath, a fact noticed also by LANGERHANS (*"Die Elemente der oberen Retschicht zeigen eine sehr intensive Färbung"* u. s. w., S. 743). Directly underneath them, lie the polygonal prickled cells of the rete. The contrast between the fusiform and the prickle cell, is very great and no transition forms are to be found. These fusiform cells resemble connective-tissue spindles, more especially such as are found in certain sarcomata, and I deem it possible, if not probable, that they are in reality connective tissue corpuscles, and that it is from them that the cords and nucleated fibres are derived which are met with in certain multilocular vesicles (*e. g.* Variola, Zoster, etc., see Fig. 46.) These two layers, the "stratum lucidum" of OEHL, and the layer of fusiform cells just mentioned, are interposed between the rete proper, and the stratum corneum, and separate them in the most decided manner.

There are striking differences also between the cells of the s. Malpighii and those of the s. corneum. The former, as has been noted, are nucleated, prickled and pigmented, the latter are neither. The former absorb carmine readily and reject picric acid, the latter receive carmine sparingly, or not

Fig. 10.



Fig. 10—Fusiform and prickle cells from the upper part of the rete.

at all, but imbibe picric acid freely. The cells of the rete are hygroscopic, easily permeable by fluids, while the horny cells are not hygroscopic, and are absolutely impermeable by fluids, even under pressure, as has been shown by SAPPEY.¹ The horny cells contain keratin, which has not as yet been found in the cells of the rete.

The chemical, physical and microscopical differences between the stratum Malpighii, and the stratum corneum, and the existence of two other special layers between them, and resembling neither, render it probable that the latter is not derived from the former, a probability which is greatly increased by the fact that the fusiform cells are more deeply stained by carmine than the cells of the rete, the opposite of which we would expect to find, if these cells had once been rete cells, and were undergoing retrogressive changes.

I feel confident that future observations will confirm the opinion, that the stratum corneum is an independent tissue. How this tissue is nourished and how regenerated remains to be ascertained.

Having now considered the fundamental structure of the skin, we will next study the organs, useful and ornamental, which are found in connection with it, and will first consider those which it possesses in common with other tissues. These are the blood vessels, lymphatics and nerves, and also certain bands of unstriped muscular fibres.

THE BLOOD VESSELS OF THE SKIN.

The vascular trunks proceed obliquely upward from the subcutaneous tissues, giving off in their course lateral branches to the sudoriferous glands, hair bulbs, fat vesicles,

¹ Op. cit., p. 589.

etc., and form a plexus in the deeper layers of the derma. From this deep plexus, oblique branches arise, which proceed upward to the superficial portions of the derma just beneath the pars papillaris; here they form a second and finer superficial plexus, from which capillary loops extend into the papillæ (Fig. 12).

LYMPHATICS OF THE SKIN.

Our knowledge of the lymphatics of the skin is mainly due to the older researches of TEICHMANN,¹ and the more recent ones of BIESIADECKI² and NEUMANN.³

The lymphatic vessels form a plexus in the deeper portions of the skin, just underneath the deep vascular plexus; from this branches run upward, which form a finer plexus situated beneath the superficial blood vessels, from which again capillary loops are given off and penetrate the papillæ, in company with the vascular loops before mentioned (NEUMANN). Besides these vessels proper, BIESIADECKI and others, describe certain irregular spaces in the derma, not bounded by special walls, but in which the lymph is supposed to circulate. These are termed lymphatic spaces.

THE NERVES OF THE SKIN.

The nerves of the integument branch off from the large nerve trunks beneath, and terminate in the skin in several different ways. In the lower portions of the derma a few medullated fibres end in large bulbous or oval extremities, termed Pacinian corpuscles having the form and appearance shown in the diagram (Fig. 11). They are found to con-

¹ Das Saugadersystem vom anat. Standp. bearb., Leipzig, 1861.

² Untersuch. aus d. Path-Anat. Inst. in Krakau, Wien, 1872.

³ Zur Kenntniss der Lymphgefäße der Haut, Wien, 1873.

sist of a central non-medullated fibre, surrounded by some twenty or thirty concentric capsules resembling the coats of an onion. These corpuscles are principally found in connection with the nerves of the hands and feet, but occasionally in other parts (BIESIADECKI). Their precise function is unknown.

Fig. 11.



Fig. 11—Pacinian corpuscles (SAPPEY).

Other nerves accompany the blood-vessels (vaso-motors), and losing their medullary sheaths, are themselves lost upon the coats of the vessels. Others again are distributed to the sudoriferous and sebaceous glands, the hair follicles, etc., while still others proceed outward, and form a plexus in close connection with the superficial vessels. From this plexus some of the fibres proceed outwardly, lose their medullary investment, traverse the papillæ, and as non-medullated fibres are themselves lost among the cells of rete Malpighii. These

nerves are found over the entire cutaneous expanse, and are undoubtedly the nerves of common sensation, that is, they convey to the brain the sensations of pain, heat, cold, etc.

There is still another very important method of termination for some of the cutaneous nerves. Certain medullated fibres, arising from the superficial plexus just mentioned, pursue a somewhat tortuous course beneath the papillæ in company with the blood vessels, and here and there penetrate particular papillæ, which, as a rule, are destitute of vessels, and terminate in certain peculiar bodies termed tactile corpuscles, or corpuscles of Meissner. These bodies

have the somewhat irregularly oval shape and appearance shown in the cut (Fig. 12), and exhibit upon their surface

Fig. 12.



Fig. 12—Papillæ of the palm of the hand with capillary blood-vessels and Meissner's corpuscles.

numerous transverse striations, and are dotted here and there with nuclei. Two or more nerve fibres may frequently be traced up to these bodies. The fibres then lose their medullary sheath, and appear to penetrate the corpuscles, sometimes near the top, but at other times near the bottom or the middle. The ultimate course and termination of the axis cylinder, after it enters the corpuscle, has not been definitely ascertained.

In these corpuscles resides the special sense of touch, and they are consequently most numerous among the papillæ of the palmar surface of the terminal phalanges of the fingers. According to MEISSNER,¹ the tactile papillæ in this region are about one-fourth as numerous as those containing capillary vessels. The tactile corpuscles occur in smaller numbers on the palm of the hand, on the sole of the foot, on the dorsal surfaces of these parts, and sometimes upon the nipples and lips.

¹ *Beit. zur Anat. und Phys. der Haut*, Leipzig, 1853.

Certain unstripped muscular fibres are found in the skin, but consideration of their relations will be deferred for the present. The organs special to the skin are the Sudoriparous and Sebaceous glands.

THE SUDORIPAROUS GLANDS AND DUCTS.

These organs consist essentially of a glomerulus or gland, which is sometimes situated in the deep layers of the derma, and sometimes in the subcutaneous tissues beneath, and of a duct leading from the gland to the surface. The glomerulus (Fig. 13), consists of a tube twisted upon it-

Fig. 13.

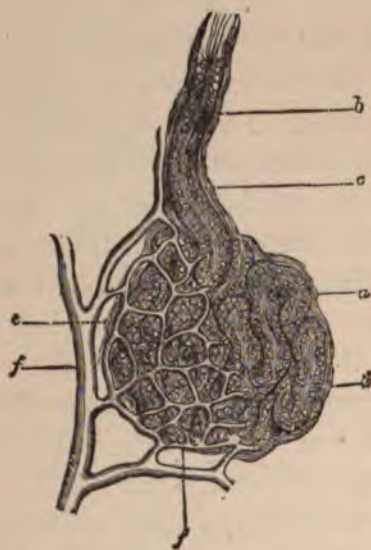


Fig. 13—Sweat gland (NEUMANN). *a*, twisted tube. *b*, excretory duct. *c*, cavity of the duct. *d*, connective tissue covering. *e-f*, blood-vessels.

self in the intricate manner shown in the diagram. This tube, having undergone a sufficient number of twistings, finally pursues a direct, though somewhat flexuous course toward the surface. It reaches the rete at some point between the papillæ, proceeds outward through the rete and horny layer and its open mouth may, in some parts, be distinguished by the naked eye, or more easily with a lens. In parts where the epidermis is thick, as upon the hands and feet, its course through it is marked by a characteristic spiral arrangement.

The structure of the tube of which the sudoriparous

apparatus is formed is quite simple. Externally, we have a firm investment of connective tissue, with a few elastic fibres, and in connection with the sweat glands of the axilla a few smooth muscular fibres also. This outer coat, as it is sometimes called, contains the capillary blood-vessels. Internal to this we find a delicate transparent membrane, lined with a single layer of cylindrical epithelium. The cells touch each other by their sides, but not by their extremities, and consequently leave a central canal for the conveyance of the perspiratory secretion.

The number of sweat glands in the body is immense. SAPPEY, who has probably made the most accurate computation, estimates their number at two millions.

Their distribution, however, is not uniform. Upon the palm of the hand there are about 2,500 to the square inch, while upon the general surface, their number is much less. There are no sweat glands upon the prepuce or the glans penis (BIESIADECKI).

The length of the untwisted tubes has been estimated to average about one-fourth of an inch, which gives us a total length of 41,666 feet or nearly eight miles of perspiratory tubing. These figures appear large, but they are instructive, in so much as they serve to impress us with the importance of the sudatory function.

THE SEBACEOUS GLANDS.

These glands are as universally, but not so numerously distributed as the ones just described. They are seated in the corium, and consist of simple or lobulated gland sacs, furnished with an excretory duct. With very few exceptions the glands are associated with the hairs, and this association permits them to be divided into three pretty distinct groups (SAPPEY).

The first of these groups comprehends such of the sebaceous glands as are simple appendages of the hairs or hair follicles. In connection with the strong and fully

Fig. 14.

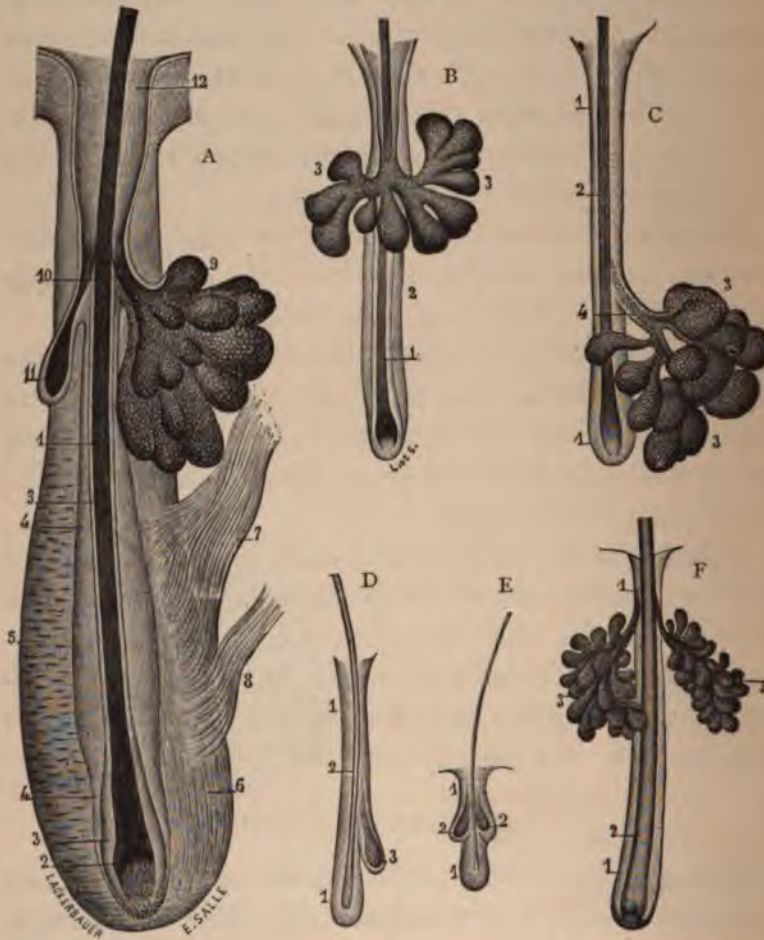


Fig. 14—Sebaceous glands opening into the hair follicle, or glands of the first group (SAPPEY). A, two sebaceous glands of unequal volume opening into a hair follicle. B, two glands nearly equal in size. C, single gland composed of lobules, from the eyelid. D, simple gland from the same region. E, gland attached to the follicle of an eyelash. F, glands from the root of the nose.

developed hairs, as those of the head, beard, axilla, pubes, etc., the gland with its excretory duct is formed by a diverticulum from the hair follicle, usually situated a little above the centre of the long axis of the follicle. Two or more glands may exist in connection with each hair, and each gland may be simple, or divided into two or more acini or lobes. The diagram (Fig. 14) shows these relations. The secretion of the glands of course finds its way into the hair follicle, before it can reach the surface of the skin.

The second group open through their excretory ducts directly upon the surface, and instead of being appendages to the hairs, the relation is reversed, the hairs concerned, being rudimentary, are simple and apparently useless appendages of the glands. The glands of this group are found mainly upon the forehead, nose, cheeks, areolæ of the breasts, and a few upon the trunk, limbs and genital organs (SAPPEY).

It is this group or class of glands which is chiefly, if not entirely, the seat of the affections embraced under the term *Acne*.

The sebaceous glands of the second groups are larger than those of the first, and their structure is more complex. The diagram (Fig 15) shows their general appearance, and their anatomical relations to the hairs associated with them.

The third group of sebaceous glands is quite small, and comprises the rest of the glands, those distinguished by the fact that they open directly upon the surface of the skin, and have no hairs in connection with them. Their configuration is here shown (Fig 16).

Glands belonging to this class are found only upon the

internal surface of the prepuce, and behind the corona glandis in the male, and upon the surface of the nipple, the vestibulum vulvæ, and the labia minora of the female.

In structure, the sebaceous glands consist of a delicate nucleated limiting membrane, supported by a dense connective tissue investment, and are filled with epithelial cells. The cells are large and nucleated, and contain the fatty matter which it is their function to secrete.

Fig. 15.

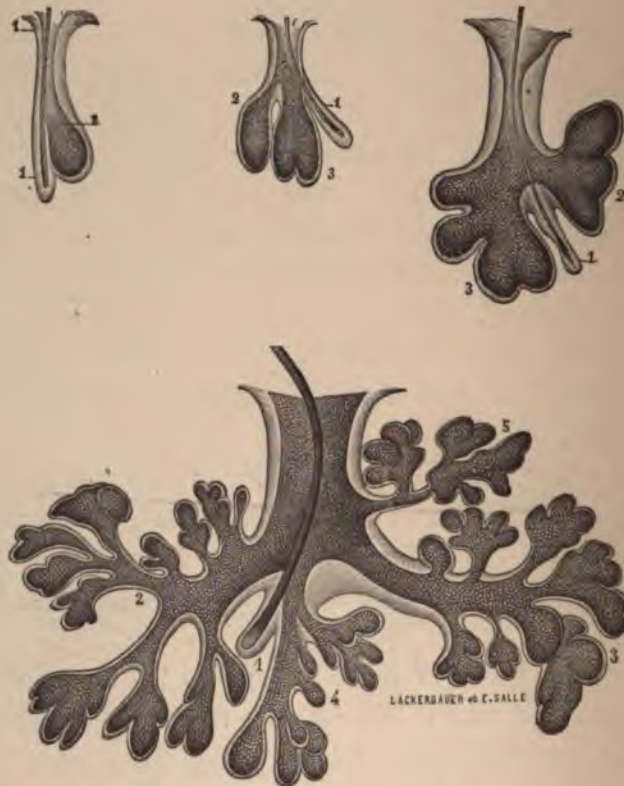


Fig. 15—Sebaceous glands of the second class from the alæ of the nose (SAPPEY).

THE APPENDAGES OF THE SKIN.

The appendages of the skin are the Hair and Nails.

THE HAIR.

The hairs consist of shafts, or portions external to the surface of the skin, and of roots with bulbous terminations. The root is contained within the hair follicle which descends to a greater or less depth into the corium, and even beneath it. The hair is not a simple homogeneous body, but shows evidence of structure, and upon microscopical examination is found to consist of several parts. Outwardly as regards the shaft, we have a layer of flat horny epithelial cells, next to these, a considerable thickness of longitudinal fibres, constituting the chief bulk of the hair, while internally we have a central medulla¹ consisting of nucleated cells. The pigment which gives the color to the hair, is deposited in little granules among the longitudinal fibres. The bulbous extremity consists mainly of cells,

Fig. 16.



Fig. 16—Sebaceous glands of the third class (SAPPEY). *The three glands here represented are from the nipple.*

¹ The medulla is frequently scanty or absent in hairs of the head.

and embraces at its lower extremity the *papilla* of the hair, as it is called, which is a little projection upward from the floor of the follicle.

The follicle itself is formed by a projection downward of the epidermis into the corium, and consists of several layers. Externally we find a dense fibrous investment, consisting of two layers of connective tissue. In the outer layer, the fibres run in the direction of the axis of the folli-

Fig. 17.

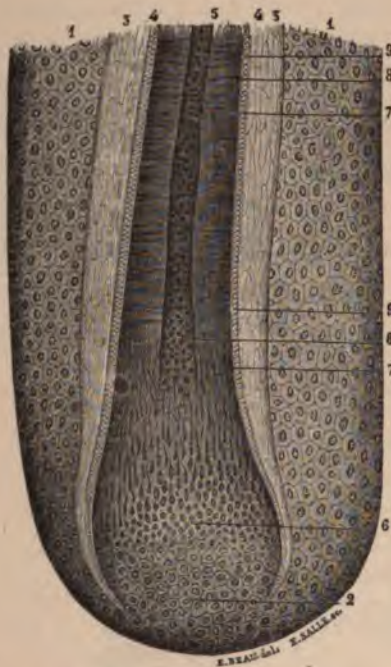


Fig. 17—Structure of the hair and root-sheaths (SAPPEY). 1, outer root-sheath. 2, lower extremity of this layer continuous with the bulb of the hair. 3, inner root-sheath. 4, epithelial layer of the hair-shaft. 7, fibrous layer of the hair. 8, medullary portion.

Fig. 18.

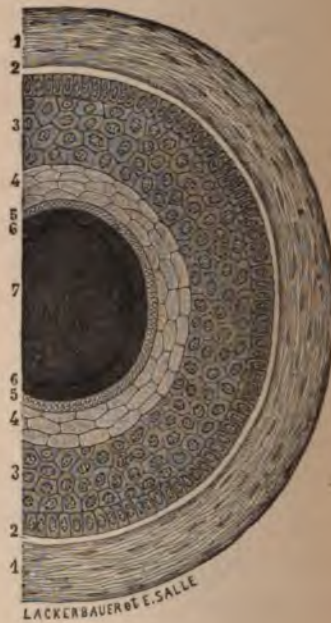


Fig. 18—Transverse section of the hair root and follicle (SAPPEY). 1, circular connective tissue wall of the follicle. 2, stratum vitreum. 3, outer root-sheath. 4, inner root-sheath. 5, 6, epithelial layer of the hair. 7, main substance of the hair.

cle, while in the internal they run circularly around it. Internal to this circular layer, is found a homogeneous investment called the vitreous membrane, which separates the fibrous layers from what are called the root-sheaths. These root-sheaths consist of the two strata of the epidermis, which have been depressed to form the follicle, and are in contact with, but not connected to the hair itself. The arrangement of the root-sheaths, and of the elements composing the hair are shown in Figs. 17 and 18.

The *papilla* is a pear-shaped projection from the bottom of the follicle, and is embraced by the root of the hair.

Blood vessels are distributed to the fibrous layers of the follicle, and a capillary loop extends into the papilla. Nerve trunks also penetrate the connective tissue layers, and non-medullated fibres have been traced among the cells of the outer root-sheath.

In connection with the hair follicles we find certain muscles, the *arrectores pilorum*. These are muscular fibres of the unstriped variety, and arise from the inner layer of the hair sac, just below, and close to the sebaceous glands. They proceed upward in an oblique direction, sometimes bending round the sebaceous gland, and are inserted into the uppermost portions of the derma, just beneath the papillæ. One, two, or more of these muscles may be attached to each hair follicle, but they all lie in the acute angle, formed by the axis of the follicle, and the superficial plane of the skin. Their arrangement is shown in Fig. 19. The contraction of these muscles by compressing the sebaceous glands, favors the exit of their secretion, and also erects the hairs, producing the condition known as *cutis anserina* or "goose-flesh." Smooth muscu-

Fig. 19.

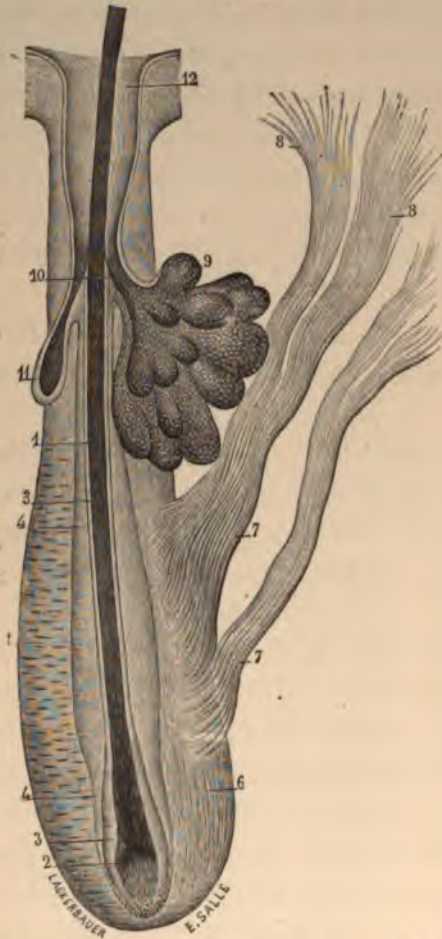


Fig. 19—Arrectores pilorum attached to the hair follicles.

lar fibres unconnected with hair follicles are found in the scrotum, prepuce, about the female genitals, the nipples, face, and to a limited extent in other parts.

THE NAILS.

That the nails are nothing more than altered epidermis is universally admitted, but which particular elements of the epidermis have undergone alteration, or take part in the formation of the nail is by no means certain. At least three distinct views have been enunciated by careful observers.

If a transverse section of the nail be made, and submitted to

examination, we will at first be struck by the apparent anatomical separation of the nail into two layers, a deeper one composed of nucleated and pigmented cells, whose external surface is slightly wavy, but whose inferior margin is characterized by prolongations downward, which fill up the

intervals, lying between the ridges of the corium. This layer is separated from the one lying above it, by a very decided line of demarkation. The superior layer is very much thicker than the one beneath, and is likewise composed, at least, in part, of nucleated cells, but in addition exhibits certain very fine perpendicular striations. These layers are well shown in Plate I.

The usually accepted view is, that these two layers are derived respectively from the stratum Malpighii, and the stratum corneum, and the superior layer being the thicker, that the *main* substance of the nail is consequently derived from the cells of the horny epidermis.

SAPPEY¹ takes exception to this, and states that both of these layers are derived from the stratum Malpighii, and consequently, that the entire nail is formed by a transformation of the cells of the rete. "La couche muqueuse de l'épiderme ne constitue pas seulement une partie de l'ongle, elle en constitue la totalité." He seems to base his opinion upon the observation that the cells of the thicker layer are nucleated and granular.

According to OEHL,² the nail is formed from the cells of the "stratum *lucidum*," (vide p. 8).

My own observations lead me to conclusions somewhat different from those above expressed, and may be formulated as follows: The nail is derived from the three strata of the epidermis. The inferior layer with its nucleated and pigmented cells from the stratum Malpighii, external to that, the thick layer of nucleated, granular and finely

¹ Op. cit., p. 608.

² I have not been able to obtain OEHL's original memoir, and am obliged to express his views upon the authority of FARABEUF, (*L'Epiderme et les epitheliums*, Paris, 1872).

PLATE I.—Perpendicular section through a portion of the Finger-Nail and adjoining Skin. To the right, nail tissue ; to the left, integument. $\times 16$.

Plate I.



PIFFARD, PHOTO.

E. BIERSTADT, ALBERTYPE.

CHAPTER II.

PHYSIOLOGY OF THE SKIN.

The principal function of the skin as a tissue, is to serve as the limiting membrane of the body, to protect the deeper organs, and to support the special organs and appendages connected with it. It also serves, to a slight extent, as an organ of respiration, removing about three per cent. of the total quantity of carbonic acid exhaled from the system. One important function of the skin, however, appears to have been generally overlooked, namely, the retention of moisture in the tissues. Were it not for the imperviousness of the stratum corneum to fluid, the evaporation of water from the surface would be unimpeded, and would lead to rapid dessication of the system, and of course to the abolition of life. Most writers regard this stratum corneum as simply a layer of effete cells, waiting only to be rubbed off, and whose function was performed while they occupied positions (?) in the rete Malpighii. This is altogether too mean a view to take of organs upon whose integrity life itself depends.

The admitted functions of the Sudoriparous Glands are twofold. First, the regulation of the temperature of the body by the evaporation of their secretion, and, second, the removal of a certain amount of excrementitious matter.

The sudoriparous glands discharge about two pounds of fluid daily, the amount depending upon the external temperature, activity of the skin, exercise, and various other circumstances. Usually the greater part of the secretion passes off in the condition of insensible perspiration, evaporating as soon as it appears upon the surface. Under ordinary circumstances the amount of fluid discharged by the skin is inversely proportional to that removed by the kidneys. The composition of the sweat given by FAYRE is as follows :

	In 10,000 parts.
Water, - - - - -	9,955.73
Chloride of sodium, - - - - -	22.30
Chloride of potassium, - - - - -	2.43
Sulphates of soda and potassa, - - - - -	.11
Phosphates of soda and potassa, - - - - -	traces
Alkaline carbonates, - - - - -	.05
Earthy phosphates, - - - - -	traces
Sudorates of soda and potassa, - - - - -	16.92
Lactates of soda and potassa, - - - - -	3.40
Urea, - - - - -	.42
Fatty matters, - - - - -	.13

Traces of a coagulable nitrogenized substance analogous to albumen.

This analysis would indicate that the perspiration is normally, to a slight extent, an excrementitial fluid, and it is so classed by ROBIN.¹ When the blood, however, is surcharged with certain excrementitial substances, *e. g.* uric acid, sugar, bile, pigment, excess of urea, etc., and the kidneys at the same time are defective in their function, the first three of these substances, may find an exit by way of the sweat glands, and the last also in increased proportion. Certain medicinal substances may also be discharged in this way in part, as iodine, the iodides, soluble sulphates, acetates, quinine, saffron, etc.

¹ Les Humeurs Normales et Morbides, Paris, 1867.

The reaction of the perspiration over the general surface is usually acid, becoming neutral, however, and even alkaline, by prolonged sweating. In certain regions, however, it is constantly alkaline, as the inguino-scrotal, axillary, and between the toes. In certain regions, as the axillæ, feet etc., the sweat may also contain a peculiar volatile odorous principle, supposed to be salts of caproic and valeric acids. A great excess of these constitutes the affection called *Bromidrosis*. Occasionally there is discharged by the sweat a substance which upon exposure becomes colored (*Chromidrosis*), and instances are upon record of hemorrhages into the perspiratory apparatus with consequent *Hæmidrosis*.

That the sweat glands assist the kidneys when the function of these latter is impaired, is beyond question, and reciprocal action of the kidneys is extremely probable. Sudden stoppage of perspiratory functions for any length of time is always followed by serious consequences, but in certain chronic derangements of the skin in which the function of these glands are but gradually impaired (as in *Ichthyosis*) the system seems to accommodate itself to the change, without manifesting evidences of serious inconvenience.

The sebaceous glands secrete an oily semi-fluid substance called the sebum. The difficulty of obtaining this secretion in sufficient quantity and in an unaltered condition has proved a barrier to its successful analysis. The analysis of LUTZ,¹ so often quoted, having been made from the secretion of glands in a confessedly morbid condition, can hardly be considered in this connection. We are not therefore in a position to definitely determine whether this secretion is in any degree excrementitious or not. Its physical func-

¹ De l'hypertrophie generale du systeme sebacée, Paris, 1860.

tions, however, are very evident. By its oily nature, it serves to protect and lubricate the skin, and to keep the hairs in a pliable and lustrous condition, and, so far as we know, these are its sole functions.

The appendages of the skin, that is, the hair and nails, are organs of adornment, rather than of utility, and their functions in this connection are too well known to need description here. Their morbid alterations, however, furnish us many useful indications, both in cutaneous and general disorders. These will be considered hereafter.

CHAPTER III.

PATHOLOGY OF THE SKIN—LESIONS.

In considering the pathology of the skin, we must in the first place have clearly in mind the distinction between pathological processes, and pathological results, which latter are usually termed lesions. For example, inflammation is a process, of which a papule may be the result or lesion.

The pathological processes which we find in connection with the skin, are the same as those encountered in other organs and most of them appear to be due directly or indirectly, to increase or diminution in the amount of blood circulating in a part. I say indirectly, as some nerves are so intimately connected with the vascular system, and govern the supply of blood to the parts, that it is difficult to say whether the deviation from the normal blood supply is a primary condition, or whether it is secondary to irritation, or other derangement of the vaso-motor apparatus. We are able, however, in most cases to recognize the nature of the process, even if we cannot speak definitely as to its proximate cause.

The skin is subject to the following general processes connected with the vascular supply, viz., hyperæmia, inflammation and anæmia, and dependent upon them we may have hypertrophy, exudation, atrophy, or heterology.

In connection with the nervous system, that part of it not directly connected with the circulation, we undoubtedly have increased and deficient functional activity.

The lymphatic system of the skin is also without doubt, liable to primary derangements, but what they are we are unable as yet to say.

The derangements of one or all of these several functions, acting upon the different organs, tissues, and elements of which the skin is composed, result in the special lesions which it is our present purpose to study; and the differences in aspect among the various lesions of the skin, is in part due to the differing nature of the morbid processes, and

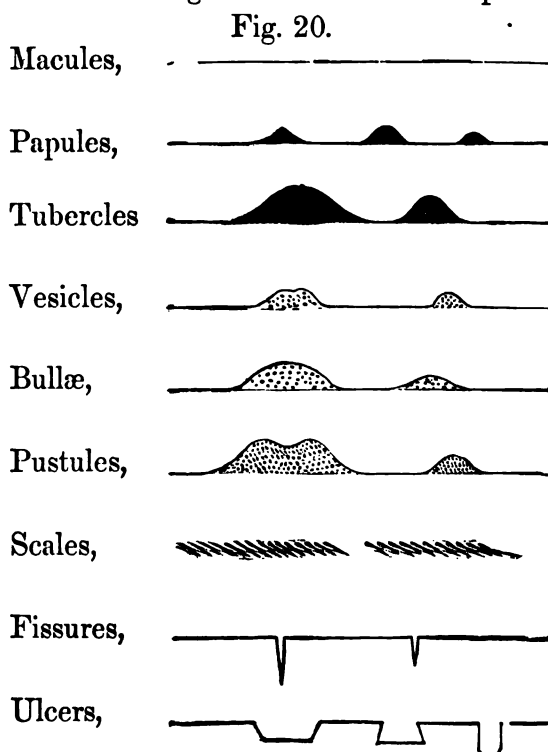


Fig. 20—Scheme of the principal cutaneous lesions in profile.

in part, to the variations of chemical constitution, or anatomical configuration, of the special organs or elements involved.

The principal lesions of the skin may be represented in profile by the foregoing scheme:

MACULES are small circumscribed discolorations of the skin, attended with very slight or without any elevation of the surface, and are dependent upon either congestion, hemorrhage, vascular dilatation, or excess or absence of pigment.

PAPULES are small, solid elevations of the skin.

TUBERCLES are also solid elevations, but are larger than papules.

VESICLES are elevations of the horny epidermis circumscribing small collections of serous or plasmic fluid, in which we usually find a few leucocytes.

BULLÆ are large vesicles.

PUSTULES are elevations of the epidermis, by underlying pus.

SCALES are collections of the cells of the stratum corneum, which have undergone more or less pathological alteration.

FISSURES are linear solutions of continuity, possessing varying length, and depth with very slight breadth.

ULCERS are solutions of continuity of varying depth, and whose outline may be circular, oval or irregular.

These are not the only lesions met with in the skin, but are the ones which most frequently concern us. Certain special lesions will be noticed in connection with the affections in which they occur.

None of these generic lesions are peculiar to any one particular disease, but with modified characters may occur in a number of different affections; so too, any given dis-

ease may at different stages of its course, be characterized by different lesions.

MACULES are met with in *Angioma, Chloasma, Erythema, Ephelis, Rosacea, Leprosy, Morphæa, Nævus, Pellagra, Purpura, Roseola, Scarlatina, Scorbustus, Scrofula, Syphilis*, etc.

PAPULES in *Acne, Eczema, Lichen, Prurigo, Rubeola, Scabies, Strophulus, Syphilis, Variola*, etc.

TUBERCLES in *Acne, Keloid, Molluscum, Leprosy, Scrofula, Syphilis, Urticaria*, etc.

VESICLES in *Eczema, Herpes, Impetigo Contagiosa, Scabies, Syphilis, Sudamina, Variola, Varicella, Zoster*, etc.

BULLÆ in *Pemphigus, Leprosy, Syphilis*, etc.

PUSTULES in *Acne, Glanders, Furuncles, Ecthyma, Eczema, Scrofula, Syphilis, Variola*, etc.

SCALES in *Eczema, Pityriasis, Psoriasis, Ichthyosis, Trichophytosis, Syphilis, Scrofula*, etc.

FISSURES in *Eczema, Leprosy*, etc.

ULCERS in *Intertrigo, Scrofula, Syphilis, Traumatisms*, etc.

The lesions may be termed the objective symptoms or signs of disease; and the student should as soon as possible familiarize himself with their generic features, and then study the modifications which appear in the several affections to which they belong.

CHAPTER IV.

SYMPTOMATOLOGY.

The subjective or rational symptoms encountered in connection with affections of the skin are, first: those involving the general system, as febrile action, or referable to distant organs, as hepatic derangement, disordered digestion, difficult menstruation, and the like; and secondly: those symptoms whose seat is in the skin itself. Among these latter we have Pain, Hyperæsthesia, Anæsthesia and Pruritus.

Pain is not a frequent accompaniment of cutaneous diseases, and is met with chiefly as a hot or burning sensation in connection with acute inflammations of the skin, or as a neuralgic pain in certain cases of Zoster.

Hyperæsthesia is a condition of increased sensitiveness and is the prominent symptom of the affection called Dermatalgia, and also of certain diseases of the nervous centres.

Anæsthesia is encountered in certain idiopathic neural disorders, but is specially of interest to the dermatologist in connection with Leprosy.

Pruritus or itching is by far the most frequent and most important of the subjective cutaneous symptoms, being encountered in a variety of affections, and often proving a

very annoying complication. As such, it merits a somewhat detailed consideration.

Pruritus may depend upon causes located in the skin itself, or, on the other hand, may be due to irritation of other organs, which irritation is reflected upon the skin, and manifests itself in this way. Among the well established causes of reflex pruritus, are hepatic difficulties, diabetes, Bright's disease, malnutrition, pregnancy, perversions of innervation, uterine disorders, etc. Of course the treatment of the pruritus depending upon either of these conditions, demands in the first place the removal if possible of the exciting cause. The appropriate measures for accomplishing this indication, must be sought in works upon general medicine. In many cases, however, the internal exciting cause is an organic disease whose removal is impossible. Under these circumstances palliatives are our only resource. If the pruritus be sufficiently severe to require treatment, and the nature of the case precludes expectation of a radical cure, we may frequently be able to afford marked relief by certain topical applications, among which may be mentioned baths. These may be plain warm baths, taken just before retiring for the night, at which time the pruritus is apt to be most severe, or alkaline baths, containing borax or carbonate of soda in the proportion of one pound of the alkaline salt to thirty gallons of water, or, emollient baths made by boiling a few pounds of linseed or slippery elm (*cortex ulmi campestris*), and adding the strained product to the water. If these fail, direct sedatives, as opium, belladonna, stramonium, hydrocyanic acid, chloral, chloroform, camphor and electricity may be tried. In the majority of cases a certain amount of relief will be obtained by some of the means

mentioned, so long as they are persisted in, but occasionally nothing seems to avail.

Pruritus of local origin, that is, when the symptom is traceable to some lesion of the skin itself, may appear under a variety of circumstances. For instance it may depend upon the stings of bees and wasps, or the bites of bed-bugs and fleas, or upon irritation caused by certain plants, as the *Urtica* and *Rhus*, or as the prominent symptom of the idiopathic affection, *Urticaria* (*q. v.*) These causes of pruritus are usually of temporary duration, and with the exception of some cases of prolonged and chronic *Urticaria* rarely require much, if any, treatment. On the other hand, the pruritus may persist longer when accompanying *Scabies* or the Itch *par excellence*, *Phtheiriasis*, *Prurigo*, *Eczema*, *Psoriasis*, etc., and disappears only with the departure of the eruption, or the destruction of the parasite (in scabies and phtheiriasis) which occasions it. The treatment of pruritus depending upon these local causes, will be considered in connection with the particular affections involved.

Pruritus varies in intensity in different cases, sometimes being so mild as hardly to require treatment, but in other cases is sometimes so severe, that life becomes a burden to the unhappy sufferer. If the pruritus be at all severe, it necessitates scratching, and this is often practiced with such vigor, that more or less mechanical wounding of the integument results. Hence, certain lesions, secondary to the itching are frequently met with, varying in character and intensity. These lesions, which the student must not mistake for the primary lesions heretofore considered, may be collectively and conveniently termed "scratch-marks," and consist in milder cases, of little black points, slightly or

not at all elevated above the skin. These are produced by the dessication of a small droplet of blood, the result of a nail wound; next we may find red lines or streaks, surmounted with blackish-red ridges of dried blood, and in severer cases, extensive excoriations, pustules and even ulcers. In cases of long standing pruritus, especially if it has been severe, and necessitated much scratching, the color of the skin darkens from the deposit of pigment.

HEBRA lays the greatest stress upon the proper appreciation of scratch-marks, and one of the student's first tasks should be to learn to recognize them, and not confound them with any of the primary lesions peculiar to certain eruptions.

CHAPTER V.

DIAGNOSIS.

The importance of correct diagnosis in affections of the skin cannot be overestimated, its difficulties, however, have been; and it is the dread of the supposed intricacies connected with this part of the subject, which deters so many students from embracing the opportunities now afforded them in most of the medical schools of this country. This same feeling, I regret influences not a few general practitioners, and induces the belief that a useful degree of familiarity with these affections can only be obtained by a prolonged special attention to the subject. I believe that these difficulties have been greatly overrated, and that the student or practitioner who gives a fair proportionate amount of study to this department, will be likely to make fewer incorrect diagnoses than in most of those other branches, with which he feels it his duty to become familiar. Most of the elements upon which a diagnosis in dermatology is to be based are directly under the eye, while in thoracic, abdominal and pelvic diseases, and in affections of the nervous system, these elements must be sought in deeper recesses, by the aid of physical exploration or by a most careful analytical study of symptoms, or both. Cutaneous diseases then, should *prima facie*

be easier of diagnosis than others, and in the great majority of instances this is the case. By diagnosis in this connection, I mean the appropriate and correct naming of the affection under consideration.

In the diagnosis of cutaneous affections, we have three sources of information upon which to draw. These are, a careful consideration of the patient's personal and family history, and the subjective phenomena accompanying the affection; secondly, the general and particular *aspect* of the eruption; and, thirdly, careful *physical investigation* of the lesion and its surroundings. In a large proportion of cases, it is true that a diagnosis may be made by simple *inspection* of the eruption (*e. g.* most cases of eczema, psoriasis, scabies, etc.), but it is equally true that, in other cases, we need the information derivable from the other two sources. The previous history, duration, etc., of a given eruption is often of the greatest service in enabling us to decide between a syphilitic and a scrofulous lesion. For instance, a strumous ulcer which has occupied, we will say five years in its evolution, may be, to the eye alone, indistinguishable from a syphilitic ulcer existing the same number of months or weeks. Its prolonged duration, however, excludes the latter disease. In the same way a squamous eruption may, from its aspect, leave us in doubt as to whether it is psoriasis or a manifestation of syphilis, but if we learn that the patient has had the same eruption a dozen times before, and that so far as he knows, and that we can find out, he has not had any other symptom pointing toward syphilis, we may confidently assert that it is an example of the former disease. A knowledge of the *previous history* is more especially of value, however, in connection with etiology and therapeutics, and will be more fully considered in that connection.

The observer who is somewhat experienced, will, in many instances, make his diagnosis rather by the *general aspect* of the eruption than by the minute examination of the lesion. This will be greatly facilitated by the exposition of as much of the diseased surface as possible. In other words, if the eruption is general the patient should, if practicable, be stripped; or, if not, as many of the affected points as possible should be successively examined, as it very frequently occurs, that although the eruption is one, different parts may exhibit different lesions or stages, and a consideration of them all will lead to a diagnosis otherwise impossible.

If, however, the general aspect of the eruption will not enable us to decide definitely as to its nature, we must then study the lesion or lesions analytically, and in so doing we are enabled to avail ourselves of the assistance afforded by three of the special senses,—those of sight, smell, and touch,—supplemented, and sometimes rendered more precise, by various instrumental aids.

Our unaided eyes enable us to judge of the color, form, and distribution of the various lesions or objective manifestations of disease; while with the aid of a lens we are able to observe fine surface-markings, to define more accurately the form of minute lesions, and more easily detect certain parasites.

Heretofore the single lens or simple microscope has been the main reliance for this purpose. This instrument, though convenient, is limited in its application to cases in which only a slight degree of amplification is desired.

The difficulties which surround the attempt to study the cutaneous surface with simple lenses of high power are mainly the following: The shorter the focus of the lens,

the nearer it must approach the object; the illumination is diminished; the field of view is contracted, and the spherical aberration becomes so evident as materially to jeopardize the accuracy of the observation. In addition, the shorter the focus, the nearer must the eye of the observer be approached. This often involves a constrained position of the head and neck, and, in some cases, an unpleasant proximity to the subject under investigation.

To obviate these inconveniences, and at the same time to obtain a comparatively high amplifying power, I was

led to adapt the compound microscope to the purpose in view. The arrangement of the instrument which I employ will be readily understood from the accompanying cut.

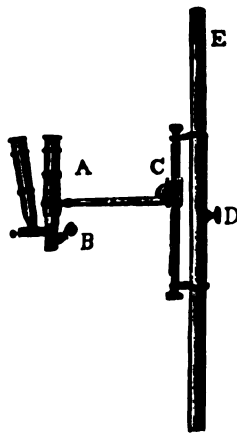


Fig. 21—Skin microscope.

A represents the body of a binocular microscope made by Nachet, from which the reflecting prism situated above the objective was removed, and another of the same form but double the size substituted. B is a double nose-piece carrying two objectives of different powers. C is the pinion for fine adjustment, and D the clamping screw for coarse adjustment. E is a rod five feet in length, which supports the other apparatus, and is itself supported by a cast-iron foot not shown in the drawing. Other adjustments permit the body of the microscope to be placed in a horizontal or any other desired position.

The objectives which I employ are a 6", 2", and 1", of Grunow, a 4" and $\frac{1}{2}$ " of Ross. The $\frac{1}{2}$ " is made with taper front, specially constructed for use with reflected light.

The advantages of this arrangement over the single lens are enlargement of the field of view, absence of spherical and chromatic aberrations, convenient distance of the observer's eye from the object observed, ten times the amplification practically attainable with the simple microscope, and, lastly, the very great advantage of true stereoscopic vision.

With the instrument described, any portion of the integument from the scalp to the sole of the feet can be conveniently examined, and a prolonged examination can be made without fatigue to the observer.

It is an instrument which I cannot too highly recommend to those desiring a thorough knowledge of the surface aspect of the skin and its lesions.

Pursuing our investigations deeper, we have the ordinary methods of the laboratory at our command. These, as applied to dermatology, consist in removing with the scalpel small pieces of skin from the patient, hardening them in some preservative solution, and finally cutting them in thin slices, or sections as they are called. These thin sections, are then examined with the ordinary compound microscope.

Many patients, however, would decidedly object to the scalpel as an aid to diagnosis, or in furtherance of a laudable desire on the part of the physician for increased anatomical knowledge, and the matter is here introduced, not so much from a diagnostic point of view, as because it is a convenient place in which to call attention to the methods which are available in the study of the pathological histology of the skin, rather than to make a separate chapter.

This field of investigation has been specially worked by the German dermatologists, and it is to them that we owe

most of our knowledge concerning the minute anatomy of skin-lesions. Americans, however, have contributed something to this branch, as the researches of DERBY, GEDDINGS, HAIGHT, WARREN, YOUNG, and others testify. It is but just to add, however, that the investigations of these gentlemen were mainly conducted at Vienna, and under the mantle of the German school.

When, however, it is desirable to make a slighter or less painful wound than that inflicted by the scalpel, and when a somewhat more superficial slice of integument will answer our purpose, it may be conveniently accomplished by the aid of the ingenious instrument devised for obtaining skin-grafts. The little mouse-tooth forceps of the instrument

Fig. 22.

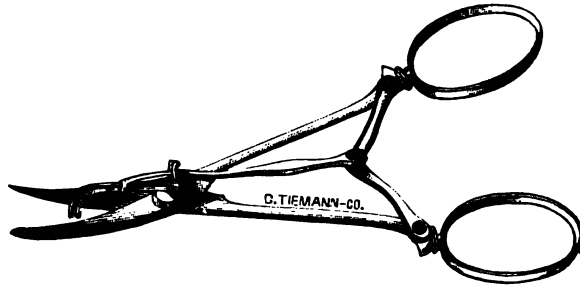


Fig. 22—Skin-grafting scissors.

seize a small point of skin, and draw it up while the blades of the scissors in closing, cut it off. The small piece of skin thus removed may be hardened and subsequently sliced.

It is sometimes desirable, however, to obtain thin sections of morbid skin for microscopical examination, in a perfectly fresh condition, and unaltered by reagents. This may be accomplished by means of a little instrument called the Cutisector, which I devised some years ago, but have

since improved, giving it the form shown in the cut (Fig. 23).

It consists of two sharp, parallel, semi-lunar blades, which, by means of a screw, can be adjusted at a definite distance from each other. If, with the instrument held as a pen, a cut be made through the skin, there will result two incisions, including between them a thin slice of integument. This is afterwards removed (though it sometimes comes out with the instru-

Fig. 24. the microscope, a drop or two of some indifferent fluid being added. The operation may be facilitated, and rendered painless, by previously congealing the part with ether spray.

The sense of smell sometimes affords us information in connection with certain affections, *e. g.*, small-pox, favus, bromidrosis, etc. Its applications in dermatology, however, are as yet quite limited.

The sense of touch, on the other hand, renders us extremely valuable services. By it, in the first place, we are enabled to judge to a certain extent of the temperature of any portion of the skin. This point, however, can be investigated more accurately by means of SEGUIN'S surface-thermometer (Fig. 24).

With this instrument the temperature of a skin-lesion of very limited extent may be readily ascertained, and comparisons with corresponding healthy points effected.



Fig. 23—The cutisector.



Fig. 24—Seguin's surface thermometer.

The sense of touch further enables us to judge of the comparative roughness and smoothness of different portions of the integument, and also of varying degrees of dryness or moisture.

Until recently the *tactus eruditus* was to the gynæcologist the all-important aid to the physical diagnosis of uterine disease, and even now affords him information not otherwise attainable. In like manner it can be made to render the greatest services to the dermatologist, and I never omit the opportunity of impressing upon students the desirability of using not only their eyes but also their fingers in the study of the affections of the skin. If the mind be concentrated upon the finger-tips, with the eyes closed, and careful palpation of skin-lesions be practiced, it is surprising how soon the sense of touch becomes educated to a point which enables it to furnish valuable information,

Fig. 25.

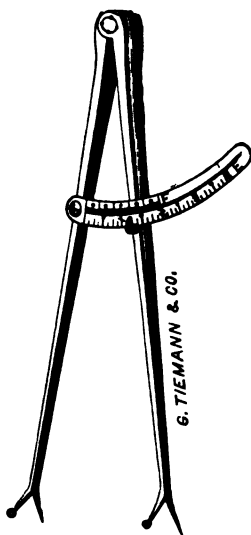


Fig. 25—Æsthesiometer.

occasionally detecting lesions or peculiarities that would otherwise have escaped notice. Having practiced this method to a considerable extent, I feel confident that it will amply reward all who take the trouble to cultivate it.

A very useful instrumental aid in the study of certain cutaneous phenomena is the æsthesiometer. I prefer the form here shown (Fig. 25). It is an improvement by Carroll upon Hammond's earlier pattern.

With this instrument the sharp points are used in the determination of the sensibility to pain, while the blunt ones serve for the detection of the acuteness of the tactile sense.

Observations in connection with the perverted nervous sensibility of special skin-lesions have not as yet attracted much attention. The most complete, however, with which I am acquainted are those of *RENDU*.¹

This form of æsthesiometer may also be conveniently employed for the measurement of the extent of patches of eruption, the divided scale being graduated in both inches and centimeters.

The study of the lesions by some of the methods above noticed, and of their mutual association, if two or more different ones be present at the same time, together with the consideration of their distribution, previous history, etc., should enable the student in a short time to acquire a commendable degree of expertness in diagnosis.

¹ *Annales de dermatologie et syphiligraphie*, An. v. vi.

CHAPTER VI.

CLASSIFICATION.

Classification is as important in dermatology as in any other branch of medicine, or, as in any of the more exact sciences. The object should be to enable the student to obtain at a glance a comprehensive view of the subject, to group together affections possessing important common characteristics, and, if possible, to give a clue to their nature, and to render assistance in diagnosis and treatment. It should be based upon a plan which appears to combine to the highest degree these several features, and, at the same time, its several parts should be consistent with each other.

A brief survey of the classifications of the past will give us an idea of the manner in which these requirements have been fulfilled.

The earlier classifications were purely topographical, the various affections being usually placed in two groups, namely, those affecting the scalp, and those of the general surface. TURNER,¹ the earliest English dermatological writer, does not appear to have made use of any special classification whatever, and it was not until the time of PLENCK,² just a hundred years ago, that a really systematic

¹ A Treatise of Diseases incident to the Skin, 2d ed., Lond., 1723.

² Doctrina de Morbis Cutaneis, Vienna, 1776.

classification was attempted. This writer classified the various affections arbitrarily, and in accordance with their external aspects alone, arranging them in the following

CLASSES MORBORUM CUTANEORUM.

- I. Classis Maculæ.
- II. ——— Pustulæ.
- III. ——— Vesiculæ.
- IV. ——— Bullæ.
- V. ——— Papulæ.
- VI. ——— Crustæ.
- VII. ——— Squamæ.
- VIII. ——— Callositates.
- IX. ——— Excrescentiæ Cutaneæ.
- X. ——— Ulcera Cutanea.
- XI. ——— Vulnera Cutanea.
- XII. ——— Insecta Cutanea.
- XIII. ——— Morbi Unguium.
- XIV. ——— Morbi Pilorum.

This was the first of the anatomico-pathological classifications based upon the appearance of the lesion.

A year later, LORRY¹ in France, attempted a classification of cutaneous affections in accordance with their presumed nature. He divided the diseases of the skin into two principal groups,—the first comprising those of internal, and the second, those of external origin. LORRY may be regarded as the first author who attempted to arrange these affections upon a natural instead of an artificial system.

WILLAN in England must next be mentioned in this connection, not that he originated a new system, as he simply adopted PLENCK's with some slight modifications, but

¹ Tractatus de Morbis Cutaneis, Parisiis, 1777.

because he has generally received the credit of establishing this plan, the influence of which is felt to the present day. He grouped the various diseases in the following orders :

- I. Papulæ.
- II. Squamæ.
- III. Exanthemata.
- IV. Bullæ.
- V. Pustulæ.
- VI. Vesiculæ.
- VII. Tubercula.
- VIII. Maculæ.
- IX. Excrescentiæ.

This system, further promulgated in England by BATEMAN, took root in Germany, and also in France, under the fostering care of BIETT, who modified it slightly, and his doctrinal successors, CAZENAVE, SCHEDEL, GIBERT, etc.

In opposition to this, ALIBERT, the author of one of the most magnificent and valuable works upon dermatology ever published,¹ appreciating the fact, as had LORRY, that many of the cutaneous affections were nearly related in nature if not in appearance, strongly advocated a natural classification, and arranged the various affections as follows :
Terming them all Dermatoses, he called them

- A. Dermatoses eczémateuses.
- B. ——— exanthémateuses.
- C. ——— teigneuses.
- D. ——— dartreuses.
- E. ——— cancéreuses.
- F. ——— lépreuses.
- G. ——— véroleuses.
- H. ——— strumeuses.

¹ Description des Maladies de la Peau, folio, Paris, 1814.

- I. Dermatoses scabieuses.
- K. ——— hémateuses.
- L. ——— dyschromateuses.
- M. ——— hétéromorphes.

This classification in its original shape, did not make much headway in France or elsewhere. The principle upon which it was founded, however, being recognized as judicious by some of his pupils and successors, has been adopted by HARDY¹ who arranges the various cutaneous affections in nine groups:

- 1st. Macules and deformities.
- 2d. Local inflammations.
- 3d. Parasitic affections.
- 4th. Eruptive fevers.
- 5th. Symptomatic eruptions.
- 6th. Dartres.
- 7th. Scrofulides.
- 8th. Syphilides.
- 9th. Cancers.

There is still another plan of classification which has attracted attention, one not based upon the external aspect, nor upon the real nature of the disease, but upon the character of the pathological process which characterizes the lesion. This is the method of HEBRA,² who divides these affections into twelve groups:

- I. Hyperæmiæ.
- II. Anæmiæ.
- III. Anomalies of the sebaceous glands.
- IV. Exudative affections.
- V. Hemorrhagic affections.

¹ Leçons théoriques et cliniques sur les mal. de la peau, Paris, 1862.

² Acute Exantheme und Hautkrankheiten, Erlangen, 1860.

- VI. Hypertrophies.
- VII. Atrophies.
- VIII. Neoplasmata.
- IX. Pseudoplasmata.
- X. Ulcers.
- XI. Parasitic affections.
- XII. Neuroses.

This plan, with some modifications by NEUMANN¹ and others, is now prevalent in Germany.

With these three systems before us, namely, the lesional, the natural and the pathological, the question naturally arises as to which of them is likely to prove of the most assistance to us in our future studies and practice. Do either of them fulfill the conditions which are required in an ideally perfect classification? Unfortunately they do not. All of them possess their own special advantages, but at the same time, each one is hampered by inherent defects of detail, which our present knowledge will not enable us to obviate. It is to our interest, however, to select the one which will prove of the most practical use, and one which at the same time does not draw too much upon theory at the expense of facts.

Of the three plans proposed, I must admit a decided preference in favor of the natural system, as more fully combining the requirements of a good classification with the least number of defects. In the collateral sciences, in zoology, in botany, in physics, and in chemistry the artificial classifications as first adopted have given way to natural systems, and it remains for medicine alone to be placed upon the same basis. In advocacy of this LIEBERMEISTER² has recently expressed himself most distinctly:

¹ *Lehrbuch der Hautkrankheiten*, Wien. 1869.

² In *Ziemssen's Cyclopædia of Prac. Medicine*, Am. ed. v. I. p. 20, 1875.

"With the progress of anatomical investigations the conclusion became more and more evident, that a symptomatic classification was unscientific, because it regarded unessential similarities and differences as more important than the real *materies morbi*. Gradually there came to be a classification on the basis of pathological anatomy, as well as symptomatology, and finally the former attained the undisputed mastery. . . . This principle of pathological anatomy is not, however, the final one which science has to accept; and even in our day she is on the point of exchanging her present one for another, without yielding up the knowledge which it has furnished, and promises still to furnish. As in all experimental sciences, so also in pathology, the conviction is growing stronger that in the investigation of diseases, at all events, the idea of causality represents the ultimate point to be reached, and accordingly the most scientific rule of classification must refer to causes, *i. e.* must be *etiological*. Already this ground has shown itself to be extraordinarily fertile, and the future has a still greater yield in store for it. During the rule of pathological anatomy, while pathology and diagnosis were making rapid progress, and while proper recognition was made of all they accomplished, the reproach was often expressed, and with reason too, that the practical goal of all medical science, therapy, gained no direct advantage from the new discoveries, but, on the contrary, that it was rather pressed into the background. Now, if the etiological principle is carried out upon the ground prepared by the anatomical discoveries, it promises to do as much, or even more for therapy. We shall always be learning more and more how to grasp the trouble at its root. The *indicatio causalis* will again assume a higher position in Therapeutics, and we

shall find more efficient remedies with which to answer it." The principle so forcibly expressed by LIEBERMEISTER is no less applicable to dermatology than to general medicine.

Long impressed with the value of a natural or etiological system, I formerly proposed the following division of cutaneous affections: ¹

First, those dependent upon modifications in the general system which have preceded the occurrence of the malady.

Second, those dependent upon changes in the general system which are contemporary with it.

Third, all those cases in which neither the blood, nor the nervous system, are in any apparent manner connected with the causation or occurrence of the affections. These three groups to be further subdivided as might be necessary.

The increased experience gained during the past seven years, and the reflections to which it has given rise, have satisfied me more than ever of the advisability of this plan, and have enabled me in a measure to elaborate its details. I have, in consequence, classified cutaneous affections in five principal groups.

- I. DIATHETIC AFFECTIONS.
- II. GENERAL NON-DIATHETIC AFFECTIONS.
- III. REFLEX AFFECTIONS.
- IV. LOCAL AFFECTIONS.
- V. AFFECTIONS OF UNCERTAIN NATURE.

The first class embraces the affections which are the outward manifestations of a general morbid constitutional condition or diathesis, which diathesis may be hereditary or acquired, and lasts indefinitely or for life.

The second includes those which occur during or in con-

¹ Medical Gazette, Oct. 31, 1868.

sequence of a general morbid condition, not hereditary, and of temporary duration.

The third embraces those which depend directly upon nerve lesion, or else occur through the medium of reflex action, as secondary to pre-existing disease or derangement of other organs.

The fourth, those which have no direct connection with abnormal conditions of the blood, or nerves, or viscera.

The fifth embraces all the affections which our present knowledge will not permit of placing in other classes.

In assigning the various diseases to these different groups, I have been guided by what appeared to be their probable nature. In many cases the probabilities are so strong as to amount to absolute conviction, in other cases the weight of probability seemed to be decidedly in favor of the assigned position, while others have been frankly marked doubtful.

I.

DIATHETIC AFFECTIONS.

SYPHILIDES,

Varieties.

Erythematous.

Papular.

Tubercular.

Vesicular.

Bullous.

Pustular.

Squamous.

SCROFULIDES.

Varieties.

Erythematous,

DISEASES OF THE SKIN.

Corneous.
Pustular.
Tubercular.
Phlegmonous.

RHEUMIDES.*Varieties.*

Eczema.
Psoriasis.
Pityriasis.

LEPROSY.

Tubercular.
Anæsthetic.

ICHTHYOSIS.**II.****GENERAL NON-DIATHETIC AFFECTIONS.**

Eruptive Fevers.
Erysipelas.
Scorbutus.
Glanders.
Malignant pustule.

III.**REFLEX AFFECTIONS.**

Acne.
Rosacea.
Urticaria.
Zoster.
Herpes (labialis, preputialis, etc.)
Xanthoma (?).
Chloasmata (some).

IV.

LOCAL AFFECTIONS.

A. PARASITIC.

Scabies.

Phtheiriasis.

Favus.

Trichophytosis.

Phytosis Versicolor.

Alopecia Areata (?).

Impetigo contagiosa (?).

B. NON-PARASITIC.

Intertrigo.

Nævus.

Furuncles.

Verrucæ.

V.

AFFECTIONS OF UNCERTAIN NATURE.

Erythemata.

Elephantiasis (Arabum).

Keloid.

Lichen planus.

Lichen ruber.

Lichen scrofulosorum.

Molluscum fibrosum.

Molluscum contagiosum.

Pemphigus.

Prurigo (of HEBRA).

Purpura.

Scleroderma.

Scleriosis.

Strophulus.

Vitiligo.

With reference to the foregoing, it is proper that I should refer to certain points which may seem peculiar. None will deny, I presume, the diathetic nature of the *syp̄l̄ulides* and but few the constitutional nature of the *scrofulides*; but many, and especially those imbued with the doctrines of the Vienna school, will question the propriety of associating eczema, psoriasis, and pityriasis under the common title which I have given them. The *Rheumides* it will be seen are the affections which the French dermatologists include under the terms *Dartres* or *Herpetides*. Accepting for the present the arguments which have been offered in support of the reality of this *dartrous*, *herpetic*, or, as I prefer to term it, *rheumic diathesis*, I will refer the reader to a subsequent chapter in which the matter is more fully considered, simply premising that the names, *rheumides* and *rheumic diathesis*, have been selected in consequence of their etymological signification, which implies the idea of exudation, 'secondly, because the blood condition underlying this diathesis I believe to be similar to, if not identical with, that concerned in the production of rheumatism and gout; and thirdly, because they are the affections to which the vulgar name "salt-rheum" is in this country so commonly applied. I have not adapted the French term "*dartre*," as it would be utterly without signification to the English or American mind, and the term "*herpes*" is usually employed by us in a sense entirely different from that in which it is used in France.

I have placed acne and rosacea in the third group in consequence of the belief that, in the majority of cases at least, they are dependent upon pre-existing disease or derangement of the digestive or generative apparatus. The

¹ HEBRA includes these affections in his class "Exsudate."

position of urticaria, zoster, herpes labialis, etc., will not be contested. Xanthoma is marked doubtful, but is placed here in consequence of its frequent known association with hepatic disease. The "some" cases of chloasma include the *maculæ gravidarum*, etc., dependent upon uterine trouble.

The position of the first five affections in the fourth group will not be contested. Alopecia areata, in spite of the opinions of BAZIN, FOX, and others, and the recent investigations of MALASSEZ¹ must, I think, be still considered as of doubtful parasitic nature. I have also marked Impetigo contagiosa doubtful. The phenomena exhibited by this affection, and my own microscopical investigations² in connection with it, induce me to believe strongly in its parasitic character, but I do not, however, consider this to be absolutely proven.

The fifth group includes a number of heterogeneous affections, in nowise related to each other, but which we are of necessity obliged to place here. It is to be hoped, however, that the rapid advances in dermatology which are now being made, will soon permit the transfer of some of them to other classes. I have omitted from this list of affections the names of many exotic diseases, and of some rare or insignificant affections, the consideration of which would occupy space which had better be reserved for matters of more practical importance. The advanced student of dermatology will find them described in elaborate and systematic treatises as those of HEBRA and FOX, and in special monographs.

¹ Archives de Physiologie, 1874.

² New York Medical Journal, June and July, 1872.

CHAPTER VII.

THE SYPHILIDES.

The first of the diathetic diseases which claims our attention is Syphilis. This is a contagious disease, first recognized in Europe nearly four hundred years ago. How it originated is unknown, but at the present day it is usually acquired by sexual intercourse with a person already suffering with it, but it may be contracted in other ways. The first physical manifestation of syphilis upon the skin, or mucous membrane is a chancre,¹ usually accompanied with enlargement and induration of the inguinal and post-cervical lymphatic ganglia. During the first or second month succeeding the appearance of the chancre, there appears upon the general surface an erythematous eruption, or one partly erythematous and partly papular, the so-called *Roseola* of syphilis. The roseola may be accompanied with lesions of the mucous membranes of the mouth and pharynx and genitals. After the disappearance of the eruption, or its removal by treatment it may, in a few weeks or months, be succeeded by another eruption, and this in turn by still another. The second, third and later eruptions

¹ For the characters of chancre and a detailed account of the various lesions of syphilis, the reader is referred to special treatises upon the subject. A brief outline only of the disease and its cutaneous relations will be here given.

never present the characters exhibited by the early roseola. This one involved the skin superficially, but the others invade it more profoundly. The roseola never leaves a trace of its previous existence, but the later eruptions may leave indelible and often characteristic marks. The roseola and other early cutaneous manifestations of syphilis are usually termed *secondary*, and the later ones *tertiary* eruptions. A syphilitic eruption rarely consists entirely of one particular elementary lesion, but usually of several different coexisting forms. This gives a polymorphic aspect, which is in a measure peculiar to the syphilides and is not as a rule encountered in the non-specific affections, with the exception of eczema and scabies. Besides this polymorphism, the syphilides exhibit certain other characteristics common to them all. These are *Color, Configuration, and Absence of Local Subjective Symptoms*.

COLOR.—The *color* of the syphilides has been likened to that of copper, or of raw ham, but neither of them resemble it exactly; it is a color *sui generis*, and peculiar to syphilis, which must be seen to be exactly appreciated, and is not counterfeited by non-syphilitic affections of the skin, though sometimes closely approached in certain cases of psoriasis, lichen planus and lupus.

CONFIGURATION.—The earlier syphilides are usually composed of small lesions widely diffused, the later, of larger ones, more sparsely distributed. The earlier ones involving the skin but superficially, recover without leaving cicatrices; the later ones invading more deeply often exhibit a tendency to ulceration with consequent scarring, but cicatrices may result even without ulceration. The marks left by the later syphilides, are usually brown from deposit of pigment, but subsequently become white, whiter even

than the normal skin. The pigment is first removed from the centre of the spot, and later forms a ring around it just before its final disappearance. The white spot is thinner than the normal skin, is non-adherent and quite smooth, without the irregularities and puckerings met with in scrofulous scars.

The syphilides frequently exhibit a tendency to assume a circular arrangement. If the eruption consist of small lesions, they will often be grouped in round or oval patches, and if of large and isolated lesions, the same tendency will be noticed. A few rounded groups of pustules may be the only manifestation present. The tendency of these, unchecked by treatment is to extend centrifugally, healing in the centre, and in this way we may have a suppurating—perhaps ulcerating ring enclosing an area of discolored skin on its way to cicatricial degeneration. If the lesion be an isolated ulcer, it is usually round or oval with perpendicular sides and a grayish base, the margins not irregular and undermined as in some other forms of ulceration. This circular configuration is observed in but few of the non-specific eruptions.

ABSENCE OF LOCAL SUBJECTIVE SYMPTOMS.—The syphilides both early and late, are characterized by the absence of itching and pain. The most extreme generalized eruptions of early syphilis are as a rule free from pruritus, and wide-spread ulceration, if it involves the skin only is unattended with pain. The different syphilides present certain special peculiarities which we will now consider.

ERYTHEMATOUS SYPHILIDE.—This is usually the first and as the most frequent eruption of syphilis, that is, it is the one least likely to be absent. It inaugurates the secondary period of syphilis and consists simply of small spots or

macules of a rose-red color—(the coppery hue is not developed until later). The macules vary in size from $\frac{1}{16}$ to $\frac{1}{4}$ inch in diameter, rarely larger, and may be scattered over the whole surface, most distinctly however upon the thorax, abdomen and back, rarely upon the face. They may be discrete or confluent, and are usually upon a level with the surrounding skin, but are sometimes slightly raised. At first the color is rosy and disappears under pressure, but later becomes somewhat darker and permanent. The eruption usually lasts from four to eight weeks and may subside spontaneously. Its disappearance however is hastened by appropriate treatment.

PAPULAR SYPHILIDE.—This form sometimes occurs by itself, at other times accompanies, or appears just at the decline of the last mentioned variety. It consists of acuminate or flattened elevations frequently decked with a minute scale. These papules persist for a few weeks, and then disappear, or while still existing, may be complicated with much larger papules, in fact, tubercles. The papules proper exhibit no tendency to ulcerate, but slowly subside leaving after them a small brownish macule which soon fades away without leaving any perceptible alteration of the skin.

TUBERCULAR SYPHILIDE.—This variety, as its name implies, is an eruption consisting of tubercles, ranging in size from a pea to a hazelnut. Their summits are usually covered with a few fine scales. They may appear as an early or as a late manifestation. In the former case, they occur as isolated lesions disseminated over the surface, but when occurring later they are frequently associated in circumscribed groups. The tubercles disappear by absorption or by ulceration, in either case leaving a brownish

mark behind, and a more or less evident cicatrix as an ultimate condition. When they ulcerate they become covered with a greenish, or greenish-black crust, underneath which lies the ulcer. This form of eruption is not infrequent, but is more commonly met with in cases of neglected syphilis, than in those which have received careful and appropriate early treatment.

VESICULAR SYPHILIDE.—This is a rare lesion belonging to the secondary period, and usually consists of moderate sized vesicles, scattered irregularly over the surface, or collected in little groups. Each vesicle is surrounded by a coppery areola; they break in a few days and are replaced by thin crusts or scales. When these crusts are removed the surface beneath them is brownish-red. This form of eruption usually lasts several months, and is maintained during this period by successive crops of new vesicles. The lesion is quite superficial, not involving the skin very deeply but generally leaves brownish macules, which take some time to fade away. Occasionally, small vesicles develop upon the summits of papules in connection with the early papular lesions.

BULLOUS SYPHILIDE.—This is an exceedingly rare lesion in adults, but is quite common as a manifestation of hereditary syphilis in infants. It consists of large vesicles or bullæ, appearing shortly after birth, whose favorite seat is the hands and feet, but they may also appear upon the trunk and limbs. It is the so-called syphilitic pemphigus of infants.

PUSTULAR SYPHILIDES.—Pustules occurring in connection with syphilis present several varieties, as regards their aspect, course and termination, and are among the most important of the cutaneous lesions met with in this disease. They occur under three principal forms.

The first consists of small pustules disseminated over the surface, frequently in great number. Each pustule is found to rest upon a hard and raised base as if the upper half of a papule had changed into a pustule. A hair frequently runs through its centre. The course of these pustules is usually indolent, each one, after lasting two or three weeks, bursts, and its contents dry into thin greenish crusts which adhere for a week or two longer. Upon the falling or removal of the crusts we find a coppery papule with a depressed and perhaps ulcerated summit. The papule slowly disappears, leaving behind a brown macule which in turn gives place to a minute white cicatrix. This form of eruption is the so-called syphilitic acne.

In the second variety we find the pustules larger than the foregoing, and without the raised base, and as a rule less numerous. They are surrounded with a tawny areola, without marked induration. The pustules soon break, and their contents dry in greenish, or sometimes dark crusts; upon the removal of the crusts, superficial circular ulcerations will be discovered. These heal readily but always leave cicatrices. The eruption may persist for several months, being prolonged by the occurrence of fresh pustules. It usually appears during the latter portion of the secondary period, and may occur upon any portion of the cutaneous surface, including the scalp. This form is the syphilitic ecthyma of authors.

A third variety of pustule is met with occurring in the tertiary stages of syphilis. They are large, isolated and scattered over the surface and vary in number from a single one to thirty or forty. These pustules contain a mixture of pus and sanious fluid, and soon dry into thick, dark colored crusts, covering a deep ulcer. The ulcer gradually en-

larges and continues to secrete an ichorous and unhealthy pus, which likewise dries into a crust having a greater diameter than the first one, which still adhering, it pushes before it. This process continues, new crusts form, pushing forward the earlier ones, until in time we have a stratified cone, half an inch or more in height, projecting from the surface, upon the removal of which, a deep ulcer with abrupt margins, and an unhealthy base is perceived. If the progress of the eruption is unchecked, a fresh crust, possessing the characters of the former, soon forms, the ulcer meanwhile steadily enlarging. This form of eruption is sometimes called *rupia*.

SQUAMOUS SYPHILIDE.—We have already noticed the fact that papular and tubercular lesions frequently exhibit scales in connection with them. In some cases this commingling of characters is so decided, that it is hard to say which predominates, or even to recognize the pre-existing lesion. These mixed forms may with propriety be termed papulo- or tuberculo-squamous. In addition to these, however, we may have lesions which are decidedly scaly from the beginning. These true squamous syphilides of brownish-red, that is syphilitic-colored, patches, are covered with a thin coating of scales. The patches are usually rounded or annular, forming circles or segments of circles, and are very slightly elevated above the surrounding surface. The scales which cover them are of moderate size, are not imbricated, that is, matted together, and do not form very thick layers. Usually, they do not completely cover the coppery base, but permit a little rim of it to appear at the edge. The scaly syphilide may appear upon any portion of the surface, frequently invading the scalp. It may also occur upon the palm of the hand and sole of the foot, either with or without eruption elsewhere.

HISTOLOGY.—The histology of the syphilides though apparently quite simple is not as yet fully understood. The elementary changes appear to consist in the development of a considerable number of small round cells, constituting a kind of "granulation" tissue (VIRCHOW). Intermingled with them a small quantity of newly formed connective tissue is sometimes found. The young cells which constitute the greater mass of the new formation, are short lived, and exhibit very little tendency to organization, but in the

Fig. 26.

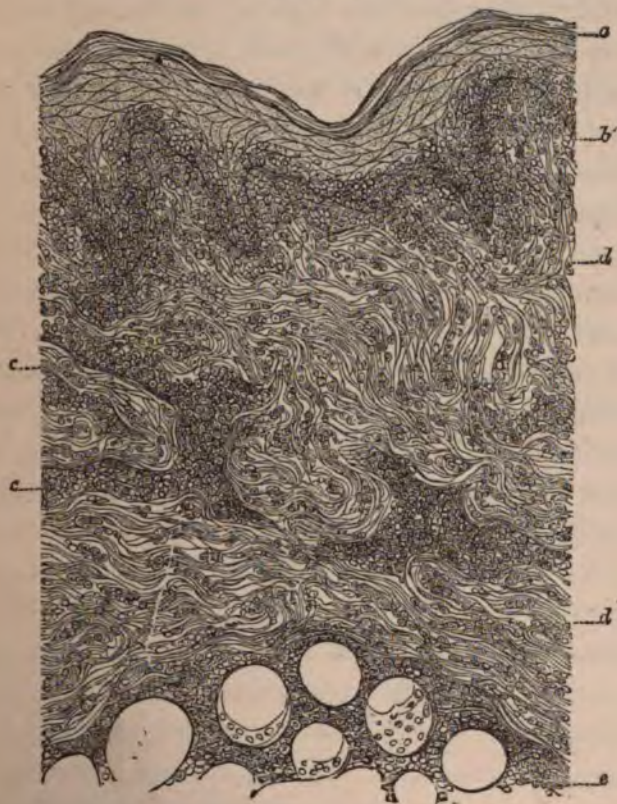


Fig. 26. Syphilitic papule from the thigh (NEUMANN). *a*, stratum corneum. *b*, strat. Malpig. *c*, cell infiltration. *d*, new connective tissue.

earlier syphilides are soon absorbed, while in the later ones, they terminate in suppuration and ulceration. The association of these elements in varying quantity and proportion, and the subsequent changes which they undergo, probably give rise to all the different cutaneous lesions of syphilis however much they may vary in external aspect.

DIAGNOSIS.—To any one at all familiar with diseases of the skin, the diagnosis of syphilitic eruptions as a rule offers very little difficulty; but occasionally difficulties do present themselves, usually owing to some irregularity, or lack of typicality in the eruption. If the erythematous syphilide is ushered in with much fever, as is sometimes, though rarely, the case, it might be mistaken for simple roseola (*Rötheln*), and under these circumstances, I know of no means by which the two may be distinguished, except by the previous history, accompanying symptoms or subsequent course. A few months ago I was seriously in doubt as to the nature of a roseolous eruption which had occurred in a prostitute, who also presented evidence of a recently healed venereal ulcer, the nature of which could not be determined. In this case the disappearance of the eruption in four or five days settled the diagnosis. I have also known a papular syphilide to be pronounced measles, an error which the persistence of the eruption rendered evident. The tubercular syphilide is not likely to be mistaken for any non-specific eruption, nor are any of the pustular varieties, with the exception of the so-called syphilitic acne, which bears a close resemblance to the eruption that sometimes follows the use of large or long continued doses of bromide of potassium. The ulcerations, however, which sometimes follow the pustular varieties, if occurring about the face, and especially the nose, are often difficult to dis-

tinguish from Lupus. In these cases, a careful study of the patient's history, and the appearances presented by former scars, if any such exist, are often of more value in a diagnostic point of view, than the aspect of the lesion itself. The squamous syphilide, however, is the one which most frequently puzzles the observer, on account of its resemblance to ordinary psoriasis. There is no difficulty whatever in distinguishing a typical case of the one from a typical case of the other, but as a large proportion of the cases are not typical, the diagnosis is not always so easy. The history of the eruption is often of service. If, for instance, the patient has had a chancre followed by one or more eruptions, before the present one appeared, and *differing* from it in character, the presumption is in favor of syphilis; but if on the other hand there is no history of chancre, and the patient has several times had an eruption presenting substantially the *same* character as the one under notice, the probabilities are strong that it is psoriasis. If the squamous eruption exist upon the palms of the hands and soles of the feet alone, it may almost with certainty be pronounced syphilitic.* On the other hand, if in addition to the eruption about the hands and feet, there are patches in other parts, and if they are specially developed and clustered about the elbows and knees, it is not syphilis but psoriasis. In many cases, however, the history will be obscure, and the lesion itself not distinctive, and we will be compelled to await the effect of treatment before deciding definitely upon the nature of the affection.

PROGNOSIS.—The prognosis of the syphilides is good. With the exception of certain local and self-limited affec-

* It should, however, be differentiated from an eczema of these parts, which often to an unpracticed eye seems to resemble it.

tions, there are few cutaneous eruptions, which under judicious management yield as readily and certainly to treatment as these, that is, in private practice and under good hygienic influences. In hospital practice, however, they are often extremely persistent.

COMPLICATIONS.—The secondary syphilides are often accompanied by specific lesions of the mucous membranes, of the eye, larynx and hair (temporary alopecia); the tertiary eruptions, by disease of the bone, of the periosteum, of various viscera, and of the nervous system.

TREATMENT.—The basis of anti-syphilitic treatment may be expressed by a single word, and that word is MERCURY. That mercury when properly administered cures syphilis is beyond a question; that it is the best known remedy for this purpose I firmly believe. The question, however, is frequently raised, as to whether mercury, although curing the syphilis, may not produce effects nearly if not quite as bad as the original disease. In answer I will quote the recently expressed opinion of an experienced observer.¹ “Mercury properly administered may be taken for years without any injury to the individual or to his constitution, either immediate or remote. It has no connection as a cause with the appearances of severe tertiary forms of syphilis. Accumulating experience derived from more accurate observation has established this truth beyond cavil, although the ancient superstition as to the injurious after-effects of mercury still measurably taint popular belief.”

Mercury then, is to enter into the treatment. By many it is given sparingly and with hesitation, and is soon abandoned for the iodide of potassium. The majority of prac-

¹ VAN BUREN AND KEYES, *Genito-Urinary Diseases with Syphilis*, p. 556, N. Y., 1874.

titioners, however, rely pretty fully upon mercury in the early secondary stage, combine it with the iodide under the name of "mixed treatment" in the intermediate period, and trust to the iodide alone in the management of tertiary lesions. Personally I use mercury in all stages, never employing the iodide if it can be avoided.

An interesting and at the same time important question arises at this point: How does mercury cure the syphilides? Is it by some alteration of the constitution of the blood, and the consequent induction of nutritional changes, or it is by direct local action of the drug upon the lesion itself? The former is the more prevalent belief, but the latter, I think, is nearer the truth. Mercury cures the lesions by its particles being brought directly in contact with them, and *ceteris paribus* the larger the quantity of mercury that can be made thus to act, the sooner the cure, *provided* the remedy be used in such a way as not to exhibit its own peculiar poisonous effects. Mercury like every other specific remedy as soon as it poisons, ceases to cure, and becomes in addition a very ready and potent agent of mischief. By these two principles the treatment is to be guided.

If the lesion under notice be a chancre (not a chancreoid) it does not require cauterization, but instead a local mercurial application and for this purpose I know of nothing better than the ammonio-nitrate of mercury.¹ This is a black powder and should be freely dusted upon the sore, and renewed as often as may be necessary. It is much more effectual than the old black or yellow wash formerly held in high esteem. (I have in several instances noticed

¹ Called in the U. S. Dispensatory (13th ed., p. 1696), the "Soluble Mercury of Hahnemann."

that when the ammonio-nitrate has been applied to chancroids, it has been followed by inflammation and pain, and it is possible that this agent may prove of service in revealing the nature of doubtful sores.) If in addition to the chancre there is induration of the inguinal and post-cervical glands, and the diagnosis is absolute, give mercury internally. For this purpose I prefer the proto-iodide given in pill form, about one grain a day in divided doses, and combined with a mild sedative, such as hyoscyamus or lactucarium. Let the proto-iodide be continued, carefully watching for any symptoms about the mouth indicative of approaching salivation. The moment there is any suspicion of mercurialism, stop the mercury and give sulphur in small doses for a few days, for the purpose of antidoting the poisonous effects of the previous drug. Many authorities can be quoted in support of the view that sulphur possesses the power of relieving the symptoms produced by mercury. I shall refer, however, to but one. *ANDRAL*,¹ speaking of the use of preparations of sulphur in syphilis, says: "Far from enjoying curative properties, they neutralize the effects of mercury: *M. RICORD* in fact, recommends the employment of sulphur when salivation or other pathogenetic effects of mercury are produced." Personal experience in both hospital and private practice enables me to speak strongly in corroboration of *ANDRAL*'s statement and of *RICORD*'s recommendation.

The sulphur should be used only while the tenderness of the gums, etc., persists, which is rarely more than three or four days. As soon as the mouth returns to a normal condition, the sulphur is to be stopped, and a few days' freedom from all medication allowed. Then, if the patient's

¹ *Pathologie Interne*, 2d ed., t. III. p. 630, Paris, 1848.

health be in good condition, resume the mercury until again obliged to desist. If, on the other hand, the general health of the patient requires it, abstain for a longer period, or combine the mercury with iron and quinine.

It has long been known that syphilis deglobulizes the blood, reducing in a very appreciable degree the number of red corpuscles, and it is also known that mercury long continued produces the same result. WILBOUCHEWITZ¹ has recently shown, however, that if mercury be cautiously administered to a syphilitic patient whose blood has, in a measure, been deglobulized by the disease, instead of further diminishing the number of red corpuscles, it increases them, until their normal proportion is restored. It does not, however, go beyond this point, and if the mercury be still continued, a gradual diminution is the result. WILBOUCHEWITZ's observations were made upon a large number of cases and by means of direct count of the corpuscles in a known volume of blood, according to MALASSEZ's method,² and would seem to be reliable. They point unmistakably to the fact that up to a certain point mercury does good in syphilis, but beyond that point does harm. If the mercury be stopped when this point is reached, the normal standard is maintained for a few days, but under the influence of the disease begins again to decline, which is a plain indication for the renewal of the remedy. Unfortunately in practice we are unable to seize this turning point, unless we adapt the tedious procedures of the experimenter, and receive no warning that the medicine is doing harm, or at least ceasing to do good until mouth symptoms are imminent, and place us upon our guard. Our best proced-

¹ Archives de Physiologie, July and Sept., 1874.

² De la numération des globules rouge du sang, Paris, 1873.

ure would then seem to be to counteract if possible the evil that has been done, and to endeavor with iron and quinine to recover the ground that has been lost, and to renew the mercury as soon as the patient's condition will permit.¹

In this way the use of a valuable remedy may be kept up for many months, in fact for a year or more, with occasional more lengthened intervals of freedom from medication, and the result will be a lessened proportion of relapses, and when they occur of decidedly milder type, and probably, a larger proportion of radical cures. In addition to the internal use of mercury, or under certain circumstances as a substitute for it, it may be very effectively employed as an external application. Mucous patches being contagious lesions should be removed as soon as possible, and this will be very speedily accomplished, if they are thoroughly cauterized with the *Liq. Hydrarg. Nitratis*, and afterwards continuously dressed with the ammonio-nitrate.² Papules and tubercles upon the face for obvious reasons demand a speedy removal. This is greatly hastened by local applications, the most suitable being frictions with the *Ungt. Hydrarg.*, the *Ungt. Hydrarg. Ammoniati*, or better still with a five per cent. or even more dilute solution of the oleate of mercury. Non-ulcerating syphilides of other parts may, if desired, receive the same applications. In pustular lesions, break the pustules or remove the crusts if any have formed, cauterize the sore with the acid nitrate, and apply the ammonio-nitrate freely and

¹ KEYES (*Am. Jour. of Med. Science*, Jan., 1876) has just published some observations going to show that prolonged use of *minute* doses of mercury not only increase the red corpuscles, but permanently maintain them at a high standard.

² I have recently found the fused *nitrate of zinc* much more *speedy in its action* than the acid nitrate of mercury.

constantly. Ulcers are to be treated in the same way. In squamous syphilides of the hands and feet, good results are reported to follow vigorous frictions with the oleate. If two syphilitic sores in close proximity be selected, and one be treated with local applications and the other not, general treatment being at the same time employed, the result will tend strongly to confirm the view that the effects of mercury in these lesions are *mainly* due to a direct local action upon the morbid tissue, and not to some obscure modification of the general nutrition.

Let us now consider the uses of the iodide of potassium in connection with the treatment of syphilis. Mercury removes symptoms, and cures the disease, but sometimes does so slowly. The iodide does not *cure* the disease, but may remove certain symptoms with wonderful promptness. In cases accompanied with severe periosteal pains, the aid of the iodide may be invoked, for the relief of this symptom, a relief which, if given in sufficient doses, it usually affords. In cases of extensive ulceration, or other processes involving the integrity of important organs, and where there is not time to wait for the more tardy action of mercury, or where it is contra-indicated by the patient's general physical condition, then the iodide should be used promptly and freely. As soon, however, as the special necessity which called for its use is past, it should be given up, and the mercury or tonics resumed.

The proto-iodide is the only preparation of mercury for internal use of which I have yet spoken, but it must not be supposed that this is the only one that is of service in the treatment of the syphilides. On the contrary; in the earlier stages it may be replaced, and frequently to advantage, by the blue pill, *hydrarg. c. cretâ*, and calomel, and in

the later lesions by the bi-chloride. In fact, in tertiary syphilis this latter preparation, or the bin-iodide appears to be of more service than any of the other forms of mercury.

If the bowels are irritable, or if for any reason the internal employment of mercury is contra-indicated, it may be replaced by inunction, or fumigation. The former of these is especially valuable in the treatment of syphilitic lesions in children, and the latter I have found of very marked service in cases presenting extensive ulcerations. The hypodermic administration of mercury, praised by some, I cannot recommend under any circumstances.

CHAPTER VIII.

THE SCROFULIDES.

The best description and the soundest views concerning these affections with which I am acquainted, are contained in a memoir by HARDY,¹ and a portion of the following chapter will be his exposition of them, and mainly in his own words. He says:

We reserve then the term SCROFULIDES for those affections of the skin which depend exclusively upon scrofula, which are never developed independently of it, and the fact of whose development will be sufficient to enable us to recognize the diathesis.

Before entering upon the description of the scrofulous affections of the skin let us examine the subject from a historical point of view. We find on consulting the authors who flourished during the middle ages, that many of the characters peculiar to the scrofulides were attributed to leprosy, and that a certain number of scrofulous patients were doubtless mingled with those suffering from leprosy, in the hospitals established for the latter disease. The symptoms of the two diseases were confounded, and we are unable to find, previous to the present century, a clear and lucid description of scrofulides. WILLAN and BATEMAN

¹ Leçons sur la Scrofula et les Scrofulides, etc., Paris, 1864.

threw a little light upon the subject, but they united all its various forms into a single genus to which they applied the name of *Lupus*, whose nature they did not seek to appreciate, but simply placed it in their class of *Tubercule*. BIETT, however, perceiving that *lupus* did not occupy a proper position in the classification of WILLAN, made a separate order of it, recognizing the fact that it was a disease of a peculiar character, but one upon whose nature he could not pronounce with certainty. ALIBERT overlooking its peculiarities, placed it among the dartrous affections of the skin, by the side of *eczema* and *psoriasis*, not having appreciated the radical differences which exist between the dartrous and the scrofulous diatheses.

It is only of late that the scrofulous nature of the disease has been generally admitted. The term *lupus* as applied to these affections does not appear to us as altogether appropriate, inasmuch as under the same title some authors have described affections which are of a syphilitic, and not of a scrofulous nature, and further, because in the school of WILLAN, the word *Lupus*, designating a tubercular lesion of the skin, does not comprehend those affections evidently allied to tubercular *lupus*, in which the *initial lesion* consists of pustules, scales or erythematous patches. For these, and other reasons, we believe, that it will be wiser to cast aside the term *Lupus*, and to give the general name of *Scrofulides* to all those diseases of the skin which are developed under the influence of scrofula, whatever may be their initial lesion.

GENERAL CHARACTERS OF THE SCROFULIDES.

The *Scrofulides* present a certain number of general characters pervading the different varieties, with which it

is necessary for us to be familiar in order that we may be able to recognize them. We first notice that they are very deeply seated. They are never superficial, but attack the deep layers of the derma. The ulcerations which occur during the progress of the eruption are extensive, and the resulting cicatrices attest the profound alteration of the integument. They may even go deeper than the skin, and invade the subjacent tissues.

The scrofulides are generally *circumscribed* and confined to a single region, or even to a limited point. They exhibit little tendency to generalize themselves, with the exception of the variety known as the Disseminated Tubercular Scrofulide. They may increase, however, in size and depth, but still retaining their first position; and may thus remain for months and even years. Their *color* is also peculiar. It is a reddish-violet, or wine color; less brown than that of the syphilides, and not as red as that of the ordinary exanthemata. This color is especially noticeable around the ulcerations. These ulcerations present several important features. Their borders are jagged and irregular, and are not clean cut, but thin and burrowed under. The bottom of the ulcer is fungous and bloody, with pale, unhealthy and sometimes exuberant granulations. You rarely find the gray pseudo-membranous pellicle which is so frequently seen in syphilitic ulcers.

The *crusts* which cover the ulcers are sometimes thick, but not very hard, and their color varies from black, when mixed with blood, to a silvery whiteness (scales); a point of interest in reference to diagnosis.

Another peculiarity worthy of mention is the swelling of the subcutaneous cellular tissue. When the disease is situated upon a region abounding in areolar tissue, as the

face, this tissue may become infiltrated; and this condition may be mistaken for erysipelas. CAZENAVE and other writers have even applied to it the names of *chronic erysipelas* or *hypertrophic lupus*. Succeeding this hypertrophic condition and towards the close of the disease, if recovery is in progress, an *atrophic* tendency is developed, pervading the skin and subjacent cellular tissue, and resulting in deep cicatrices. This is most clearly seen when the disease invades the nose, for after recovery the alæ are much thinned, and the nose itself much reduced in size at its extremity. After their cure, the previous existence of the scrofulides can always be recognized by the scars which, in all cases remain, even after the *erythematous scrofulide*, although this variety is unaccompanied with any ulceration. The cicatrices are usually depressed, from the absorption of the subjacent cellular tissue, and present a reticulate aspect, like those following burns of the third degree. Sometimes they are elevated, irregular, and granulated, like warts; or when still more exuberant they greatly resemble keloid. Their color, at first violaceous, is gradually effaced, and they become white and indelible.

The absence of all local or general reaction is one of the peculiar characteristics of the scrofulides. There is neither heat, itching nor pain, and sensibility generally, seems blunted in those affected. We may have deeply-ulcerating scrofulides attacking and destroying the deeper tissues and even the bone, without giving rise to severe pain or any sign of reaction.

Among the symptoms which assist in forming our diagnosis, we must not overlook those which relate to antecedent or concomitant phenomena. Among the former we may find some old scrofulous scars, or spots upon the cornea,

indications of some previous scrofulous manifestation. These do not prove conclusively that the present affection is scrofulous, for this diathesis does not exclude other diseases, but affords a certain probability that should be taken into account. In like manner an ophthalmia or a white swelling may enable us to determine the nature of a cutaneous affection whose objective characters are not well marked.

COURSE AND DURATION.

The progress of the Scrofulides is very slow. They rarely last less than six months, while they frequently persist for two, five, ten or even twenty years. During the whole period of their existence they usually retain the same form, and occupy the same place. In a few rare cases they assume a phagedenic character; but under these circumstances their march is very rapid and death may soon ensue.

The Scrofulides frequently terminate in recovery, even in cases of apparently grave character. This may result spontaneously, but is usually owing to appropriate treatment. In some cases the favorable termination is hastened by the appearance of some intercurrent malady, as erysipelas, or one of the eruptive fevers, which inducing a fortunate modification, may bring about recovery. In other cases recovery does not take place, and the affection lasts for life. The patient may succumb to intercurrent disease, or be carried off by some other scrofulous manifestation. Finally, and most frequently the patient dies from some visceral complication as tuberculosis of the lungs or bowels or Bright's disease of the kidneys.

The principal general characters of the Scrofulides are

as follows: The depth of the lesion, its localization and permanence, the color of the crusts, the appearance of the ulcerations and cicatrices, the swelling of the areolar tissue, the absence of local and general reaction, and the slowness of their march. By attention to the foregoing, we will be enabled to distinguish the Scrofulides from the dartrous (rheumatic) and syphilitic eruptions which sometimes resemble them closely.

The dartrous affections may be found upon scrofulous subjects, but may be distinguished from the Scrofulides by the following peculiarities: The dartres are apt to extend themselves over other regions than those first affected, and even to become general, and are accompanied with heat, itching or smarting. These symptoms, however, are less marked when the dartres affect the scrofulous, than under other circumstances. The dartres never leave scars, even after the superficial ulceration of eczema, while the Scrofulides always leave a cicatrix whether there has been ulceration or not.

Old tertiary syphilides with deep ulcerations frequently resemble the Scrofulides, and in some cases the differential diagnosis is extremely difficult. We arrive at the truth, however, by relying upon the following characters: The syphilitic ulcerations are more regular and rounded, their edges clean cut and not burrowed under, their bottom is covered with a thick grayish false membrane, and the crusts are thicker and more adherent. The crusts are apt to accumulate in layers, like certain shells, and their color is a decided green or blackish-green, but they are never white or absolutely black. The appearance of the cicatrices is also important. At first brown, they afterwards become white, but are not deeply depressed nor reticulate, nor ele-

vated like those of keloid. Contrasting with these characters, the borders of the scrofulous ulcerations are irregular and loosened, the granulations are exuberant and pale, the crusts black or white, and the scars depressed or elevated. The march and progress of the two affections present marked differences; the syphilitic being much more rapid in its evolution. It rarely presents the same form for a lengthened period, but is modified in some way, and appears at a new seat under a new and usually graver form. Finally in making our diagnosis we must take into account accompanying symptoms. We must not, however, rely too much on antecedent phenomena, for the two diatheses do not exclude each other, and an individual who has formerly had an ophthalmia or some other scrofulous manifestation may still have a syphilide. The contemporary phenomena are of much more consequence, though not absolute in their indications. With the assistance of these various aids we will generally be enabled to arrive at a correct diagnosis. In some cases there is such a mingling and confusion of symptoms that it is difficult if not impossible to pronounce decisively. We must then wait until the treatment reveals the true nature of the case.

In the latter case, however, we must be strictly on our guard, for if it be a syphilide affecting a patient subject to scrofula, the anti-strumous treatment may so modify the constitution as to bring about a cure or deceive us into believing that we had been dealing with a simple Scrofulide. The best *exploratory* treatment in such circumstances is to employ mercury, which will cure if the disease be syphilitic, but will aggravate if it be of a scrofulous nature.

VARIETIES OF THE SCROFULIDES.

The different varieties of Cutaneous Scrofula may co-exist upon the same subject, which often renders it difficult to describe or classify them definitely. Every author has adopted his own peculiar classification, and some have used the term *Lupus*, to designate those varieties which are grave and dangerous in their nature. M. CAZENAVE, who adopts this nomenclature, recognizes four species of *Lupus*, namely: the *Erythematous*, the *Tubercular*, the *Ulcerative*, and the *Hypertrophic*; of these, the third and fourth are never primitive, but always succeed one or the other of the two former varieties, and consequently we are unwilling to accept this division.

M. BAZIN, who admits the existence of benign scrofulides, applies to the affections which we regard as alone dependent upon scrofula, the term "*Scrofulides Malignes*." He divides them into three groups: the *Erythematous Scrofulide*, the *Tubercular S.*, and the *Crustaceo-ulcerous S.* To the last of these varieties, the same objection may be made as in the case of the last two species of M. CAZENAVE, for we find that the *Crustaceo-ulcerous S.* usually occurs as a later stage of a Pustular or Tubercular Scrofulide. M. BAZIN thus places the same affection in two different groups, according to the period of its evolution.

This transformation of the same disease from one condition to another, and the co-existence of several forms, is the main obstacle in the way of a good classification. Nevertheless, as a classification is indispensable, we will, as the result of our clinical observations, divide the scrofulides into the five following varieties: the *Erythematous*, the *Corneous*, the *Pustular*, the *Tubercular*, and the *Phlegmonous Scrofulides*.

THE ERYTHEMATOUS SCROFULIDE.

This form may also be termed *Erythemat-Squamous* as desquamation often accompanies or succeeds the erythema. It is characterized by spots of a well-marked reddish tint, shaded with brown or violet. The color is peculiar, not resembling that of syphilis, the violet tinge predominating over the brown. The surface is unbroken, and presents a shining aspect. The redness is permanent, disappearing under the finger, but returning immediately the pressure ceases. It may be heightened momentarily by mental emotion, or anything that produces general excitement. The patches are slightly in relief above the healthy skin, but, after recovery, the cicatrices are depressed. They are usually rounded or oval, from the size of a ten cent piece, to that of a quarter of a dollar, but may extend so as to occupy the whole cheek, or even the greater part of the face.

The Erythematous Scrofulide commences with the redness of which we have spoken, but the epidermis soon wrinkles and is detached under the form of small foliaceous scales. These are very adherent, rarely dropping of themselves and often resisting the effort of the hand to remove them. At first glance, they look like the scales of psoriasis, but close inspection shows them to be less foliaceous and imbricated and not so easily detached.

This scrofulide is almost always found upon the face, but sometimes upon the limbs, hands, or feet; it may also occur upon the scalp, in which case the diagnosis is difficult; it then presents a reddened elevation covered with scales, the hair loses its vigor and falls, and on recovery leaves white spots resembling those produced by fevers or alopecia. Like the other scrofulides, the erythematous form

exists without local symptoms; there is neither heat, pain, nor itching. The disease manifests itself by its slight elevation, its color and desquamation.

The Erythematous Scrofulide progresses with tardy step. At first there is tendency to extend, then it remains stationary and may so persist for life in spite of the most judicious treatment. In other cases amelioration occurs, the spots lessen in size, their color fades, and the disease is cured. In every case, however, an indelible cicatrix remains, even if there has been no ulceration. This scar, which resembles that of a burn of the third degree, is produced by interstitial absorption. The cicatrization usually commences at the centre of the patch, and extends outwardly, which fact led BIETT to christen the affection "Centrifugal erythema." The description given by this distinguished author is exact, but the name which he has proposed is inappropriate, as it would ally to a severe and tenacious disease, the erythemata, which are always trivial affections of favorable prognosis, and which always disappear without leaving any trace of their existence.

This scrofulide presents the peculiarity of developing by preference upon such scrofulous subjects as present a sanguine temperament, and whose faces possess high color, as a result of habitual congestion.

DIAGNOSIS.—The Erythematous Scrofulide is particularly characterized by a reddish-violet spot, a little scaly, slightly elevated, usually rounded, of varying size and most frequently situated upon the face; its march is exceedingly slow and it always leaves a well-marked scar. The affections which are most likely to be mistaken for it are: erythema, psoriasis, pityriasis rubra, lichen, and especially, the papulo-squamous or tubercular syphilide.

Erythema papulatum and nodosum are easily distinguished by their acuteness, inflammatory redness, dissemination over the limbs, local and sometimes general symptoms, and finally by their rapid recovery, without leaving any trace, except a few ecchymoses, which soon disappear.

Psoriasis, like the affection we are considering, presents elevated patches of well-marked redness, covered with scales and circular in shape; but the scales of psoriasis are imbricated and less adherent. The eruption usually appears at several points, especially at the elbows and knees, is accompanied with itching and when cured leaves no scars.

Pityriasis rubra presents larger patches, less elevation, but redder and more general, and the scales more branny in character. Itching exists, but no trace remains after the disappearance of the eruption.

Lichen (papular eczema), occasionally bears some resemblance to the Erythematous Scrofulide, but the dissemination of the eruption, the color and the small size of the papules, the existence of severe itching and the absence of cicatrices, attest the true nature of the affection.

The diagnosis between this scrofulide and some of the forms of syphilis frequently offers considerable difficulty. The papulo-squamous syphilide, like the other early forms of secondary eruption is to be distinguished by the diffusion of the eruption over a great extent of surface, by the rapidity of its evolution and by the complications pertaining to this stage of the disease. When the eruption is of the tubercular form in groups, the elevation of the tubercles, their coppery color, the thinness of the scales, the rapid progress of the disease, the accompanying phenomena and the prompt results of anti-syphilitic treatment, are sufficient to guide us to a correct diagnosis.

CORNEOUS SCROFULIDE.

This variety closely resembles the preceding, except that it presents a greater alteration of the follicular apparatus of the skin. It is characterized by the appearance of one or more circular and slightly elevated patches, possessing the usual coloration of the scrofulides. There are no scales upon the surface, but instead a multitude of little elevations or asperities like the surface of a coarse file. On examining them with a lens we find that the orifices of the sebaceous glands are enlarged and open, and that the asperities are formed of the hardened secretion protruding from them. When these are removed they are replaced by new secretion, which soon forms, fills and obstructs the duct. Their usual situation is the face. They vary in size and number.

After a varying period has elapsed, sometimes shortened by treatment, the sebaceous secretion lessens and disappears, and nothing remains but the depressed cicatrices. On the other hand, they may extend or persist for a long time, in spite of the most judicious treatment.

This variety of scrofulide has been confounded with acne, especially the variety termed *Acne sebacée concrete*; but in this affection we do not find the violet hue of which we have spoken; the patches are not elevated, and at the close of the disease we do not find cicatrices as in the scrofulide. M. CAZENAVE believed this affection to be a variety of acne, and thought that the cicatrices were due to the pressure of the sebaceous matter upon the skin. This compression, however, does not occur, as the horny prominences are external. Is it not more rational to consider the cicatrices as due to the general atrophic action which occurs in all the cutaneous manifestations of scrofula?

DIAGNOSIS.—The recognition of this variety of scrofulide depends upon the existence of the elevated patches of a violet-red color, and covered with firm and pointed prominences, jutting out from the orifice of the sebaceous follicles. We also note the tardy progress of the disease, and the formation of cicatrices, together with the occurrence of patches in a less advanced condition. At first glance psoriasis might be mistaken for the scrofulide, but the thick and imbricated scales of the former, will on careful inspection, preclude any error in diagnosis. The variety of lichen known as *Lichen Pilaris*, in its general aspect, bears a close resemblance to the corneous scrofulide, but the papules of lichen are well marked and should not be mistaken for the horny prominences escaping from the sebaceous ducts. All the varieties of acne, whether simple, sebaceous or inflammatory, differ from the scrofulide by their superficial character and rapid course, and when cicatrices result, they are neither as deep nor extensive as in the latter diseases.

THE PUSTULAR SCROFULIDE.

This is the most frequent variety. It sometimes exists alone, but at other times mingled with the other forms. It makes its appearance in two ways. In some cases we find a multitude of little pustules of the size of a pin's head developed upon a reddened patch. These remain a week or two, then break and give issue to a plastic fluid which dries in yellow crusts. In other cases, it commences with a pustule similar to those found in rupia, and as large as a pea or a cherry. These are filled with a mixture of blood and pus, and on breaking dry into blackish scabs. The first variety with its small pustules resembles impetigo in form, and has received the name of *impetigo rodens*.

This name, however, we must discard, as it confounds under the same name, two diseases of widely different nature and gravity.

Once developed, this scrofulide is characterized by variously colored crusts, which may be white or light yellow, but most frequently are blackish from admixture of blood. We may find one or more of these patches, and if at the commencement there have been several, they may unite by extension. They increase by the development of new pustules around the crusts, which breaking, augment by their secretion the area of the disease. The crusts are very adherent, but when removed, disclose shallow ulcers with irregular borders, and filled with pale, unhealthy, and flabby granulations. We do not find the gray false membrane, common to syphilitic ulcerations. In some cases the surface of the ulceration, presents small, hard, warty elevations which obtained for this variety the title of *Verrucous*, a name we formerly gave it, believing it to be a distinct variety. This aspect, however, is never primitive, but when it appears, it is always upon an ulceration succeeding the pustular or tubercular form. The nose is the favorite seat of the Pustular Scrofulide, but it may be found upon the cheeks, rarely upon the limbs.

This variety progresses very slowly, and is unaccompanied with pain or itching. In spite of its graver aspect, it is more readily curable than the preceding forms. When recovery takes place, the crusts fall, and beneath them we find a cicatrix already formed, but deeper than in the erythematic variety. The cicatrix at first violaceous, after a time becomes white, and when completely formed, resembles the irregular, reticulated scar of a severe burn. In other cases, instead of improving, the ulcerations increase

in depth, invading or destroying all the tissues they encounter. The bones usually resist this variety, but may yield to the tubercular.

DIAGNOSIS.—The diagnosis of the Pustular Scrofulide, which is to be established by the signs just given, is very important and sometimes quite difficult. It is to be distinguished from pustular eczema and from the *Pustulo-Crustaceous* syphilide.

Pustular eczema bears a close resemblance to this scrofulide, but its march is more rapid, the crusts are yellow and soft, and the eruption is rarely circumscribed. It is usually of greater extent and spreads over different regions of the body. The ulcerations are more superficial and never followed by cicatrices, and, in addition, we usually have local heat and itching.

The pustulo-crustaceous syphilide sometimes resembles the pustular and ulcerative scrofulide so closely that the diagnosis between them may be exceedingly difficult. In both diseases the affection is circumscribed, but in the syphilitic the crusts are of a characteristic greenish color, and are more elevated, irregular and harder. When the crusts fall, the ulcerations are circular with clearly defined borders, their bottom is covered with the false membrane peculiar to syphilis. The cicatrices are not as deep as those of the scrofulides, and retain for a long time the brown discoloration. Lastly the progress of this eruption is more rapid than that of the scrofulide. In some cases, the objective signs will not be sufficient to establish the diagnosis, and we must then examine the antecedent and concomitant phenomena; and these failing, we must look to the results of treatment before finally deciding.

TUBERCULAR SCROFULIDE.

Next to the pustular scrofulide, the Tubercular is the most frequent, and is decidedly the gravest of all the varieties. This variety occurs under two distinct forms; firstly, *without* ulceration, or with *superficial* ulceration; and secondly with *deep* ulceration. As the symptoms and prognosis of the two forms differ, we will give a description of each.

SUPERFICIAL TUBERCULAR SCROFULIDE.—This variety is characterized by soft indolent elastic tubercles of the size of a pea. They are semi-transparent, yellowish or brownish-violet, but never possess the reddish-brown tint of syphilis. The tubercles are generally found in groups of eight or ten, forming circles, segments of circles, or irregular figures. We may find a single group only, or there may be others upon different parts, and in some cases they may be dispersed over the whole body, constituting the sub-variety which has been called the "*Disseminated Tubercular Scrofulide*," possessing no peculiarity, except this generalization of the eruption.

The superficial tubercular scrofulide may occupy any portion of the body; but its favorite seat is the face, where it may attack the cheeks, lips or chin. It is rarely found upon the trunk or sexual organs, and still more rarely on the limbs.

Infiltration of the subcutaneous areolar tissue frequently accompanies this affection; and as this appearance is often more striking than the tubercular, the disease has obtained the name of Hypertrophic Lupus. This hypertrophy of the cellular tissue is frequent upon the face, and causes a peculiar aspect. The natural features are disfigured or effaced, the cheeks are swollen and hanging, the lips

enlarged, and the eyelids tumified to an extent that may interfere with the patient's vision.

When the engorgement is situated upon the limbs, the volume of the parts is greatly increased, the elements of the skin itself seeming hypertrophied. The genital organs may be the seat of the swelling, the penis becoming twice or thrice its natural size, or the labia may increase in like proportion. Some have mistaken this condition for Elephantiasis Arabum, but this latter disease is usually developed under the influence of a tropical climate; and the skin, though undulated like the skin of the rhinoceros or elephant, never presents the agglomerated tubercles of the scrofulide.

This variety is exceedingly chronic, lasting for several years, the patient meanwhile appearing to enjoy good health. All the bodily functions may go on with regularity, unimpeded by any local or general derangement, and the disease manifesting itself solely by the tubercular eruption, may last for life.

This form, however, may terminate in several ways. Usually the tubercles lessen, lose their color and disappear by absorption, leaving depressed cicatrices. In other cases, the tubercles persist indefinitely and may ulcerate: but the ulceration is only superficial, and invades but a portion of the tubercle, and recovery, by cicatrization, ultimately occurs.

DIAGNOSIS.—The simple Tubercular Scrofulide is characterized by the violet colored indolent tubercles and by the swelling of the subjacent tissue, and the only diseases likely to be confounded with it, are psoriasis, herpes circinatus and the tubercular syphilides.

Psoriasis under the form known as *lepra vulgaris* pre-

sents a circular appearance with elevated circumference, but the elevation is uniform and not formed of tubercles, and the thick white imbricated scales are easily distinguishable from the light desquamation on the surface of the tubercles.

Herpes Circinatus, characterized by its shape and elevated scales, differs from the circular scrofulide by the rapidity of its progress, and the absence of tubercles.

The syphilitic affection which is liable to cause difficulty in diagnosis, presents tubercles similar in arrangement to those of the scrofulide. They are, however, harder and browner in color, their course is more rapid, and they are not accompanied with swelling of the subcutaneous tissue. If the case still remains doubtful, we must rely upon the accompanying phenomena or upon exploratory treatment.

ULCERATIVE TUBERCULAR SCROFULIDE.

This is the gravest of all the varieties. It commences like the preceding form, with several reddish-violet, and closely aggregated tubercles; but they are of larger size, and are surrounded with an inflammatory areola. They quickly yield to ulceration, and the patches extend in breadth and depth. The increase in area is due to the development of new tubercles around the first, which go through the same process of softening and ulceration. When the ulcerations increase in depth they attack and destroy skin, cellular tissue, muscles, cartilages and even the bone itself. This destructive tendency has given the disease the name of *Lupus Vorax*. The crusts which cover the ulcers are thick and brownish and sometimes black from the mixture of blood. The ulcers themselves are deep, ragged and fungous, and their borders irregular and

burrowed under. The surface is sanious or bloody, or covered with unhealthy granulations, exuding an abundant sero-purulent and fetid secretion.

The favorite seat of this variety is the nose or its vicinity. It generally commences on the skin, then destroys the cartilages, the mucous membrane, the vomer, and even the superior maxillary bone itself. In some cases it first attacks the Schneiderian membrane, and then eats upward through the cartilages and skin, and downward through the vomer or hard palate, establishing fistulæ between the two nasal fossæ, or between the mouth and these cavities. When it appears upon the lip, it destroys this organ, attacks the gum, and invades the maxilla. In the eye its course is equally destructive, and fatal to vision.

This scrofulide may occupy other regions, as the neck, the sternum, the limbs, especially near the joints, and the genital organs.

The march of the Ulcerative Tubercular Scrofulide is slow, but usually progressive and attended with hideous disfigurements from the extensive destruction of tissue. The suppuration is very profuse, and sometimes leads to hectic, and death from exhaustion. Arrest of the disease may occur spontaneously, but more frequently it is due to appropriate treatment.

In case the ulceration has been extensive or deep, the resulting cicatrices may by their ultimate contraction produce deformities of the organs in their vicinity. The functions of the mouth, eyes and ears may be more or less impaired, and when seated upon the limbs, the contracting cicatrices may constrain and impede their free movement. In other words we may have the results and sequelæ which follow burns of the third and fourth degree.

DIAGNOSIS.—The diagnosis is usually made with ease, and is based upon the existence of deep and irregular ulcerations, whose edges are thin and burrowed under, with a fungous and unhealthy base.

The secretion is abundant and sero-purulent, and the crusts are uniformly black. As these ulcerations may be mistaken for those of a syphilitic, canceroid or cancerous nature, it will be well to indicate the signs which will aid us in making a differential diagnosis. The syphilitic manifestations may occupy the same locations, but they rarely produce as extensive destruction of tissue as this form of scrofulide. Syphilitic ulcers have well-defined and regular borders, and are surrounded with a reddish-brown areola; the crusts are greenish instead of black, and the scars are less marked. We also take into consideration the history of the case and the results of treatment. The canceroid ulcerations rarely commence with a tubercle but usually with a wart, which after existing some time begins to ulcerate. The ulceration itself, however, may be the first symptom. The most important and characteristic sign is the presence of a little raised border which surrounds the canceroid ulceration, but which is never found in the ulcerated scrofulide.¹

Cancerous ulceration may invade any of the tissues, and destroy them like the scrofulides, but the borders of the ulcers are not surrounded with scrofulous tubercles, but with harder and larger nut-like elevations. There is a tendency to the formation of vegetations, and the patch presents a peculiar ichorous aspect, and is accompanied with lancinating pains. When doubt still exists, the age of the

¹ In this latter statement I do not agree with HARDY.

patient must be considered, as cancer is a disease of advanced, while the scrofulide is one of early life.

PHLEGMONOUS SCROFULIDE.

We have given this name to a variety of scrofulide, characterized by the development of small cutaneous or "Dermic" abscesses. It commences with a little tumor which gradually increases, reaching, perhaps, the size of an almond or walnut. Little by little the tumor softens, and, at length, fluctuation announces the presence of pus. The skin covering the tumor presents the usual violet-red tint, and gradually becomes thinner and thinner, and at last breaks, giving exit to a serous and ill-conditioned scrofulous pus. A crust forms over the opening, damming up the fluid, which bursts out anew at some other point. This process continues until several openings are made, which, uniting, form an ulceration of greater or less extent, and possessing the usual scrofulous characters. These abscesses may be isolated or contiguous and their number is variable. The suppuration and the formation of crusts is much more rapid than the cicatrization of the ulcerations. The scar, at first violaceous, becomes white, irregular and reticulate. In some cases the abscess does not open, but the pus is absorbed and no ulceration occurs; but even in these, a violet spot remains, which is succeeded by a depressed cicatrix possessing the usual scrofulous appearance.

The duration of this variety is frequently prolonged by successive crops, which may appear from time to time for several years.

DIAGNOSIS.—The Phlegmonous Scrofulide possesses such well-marked characters that it ought never to be mistaken for abscesses occurring in the glands or cellular tissue; its

small size and superficial location should suffice for its recognition. This scrofulide may co-exist with the other varieties or with other manifestations of scrofula.

PROGNOSIS OF THE SCROFULIDES.

The prognosis of these affections is always grave. They are chronic and obstinate, and often persist for years and even for life, in spite of the most rational treatment.¹ Death may ensue from too profuse and exhausting suppuration, but more frequently results from some intercurrent disease, which may or may not depend upon the original malady. When the scrofulides heal they always leave indelible scars, more or less disfiguring, according to their location. The prognosis, however, depends somewhat upon the variety.

The erythematous form is never fatal, but is rebellious and may last for life. The pustular, although apparently quite grave, from the extent and depth of the ulcerations, usually yields more readily to treatment; while the ulcerative tubercular variety, destroying the nose, vomer, hard palate, in fact, any part it attacks, leaves after it frightful deformities. The prognosis also depends upon the extent of the lesion and the activity of the affection. Sometimes the disease remains stationary for years, or, again, its progress may be very rapid, and even phagedenic, with an early fatal result. When there is a single tubercle, for instance, it may be successfully attacked with energetic local treatment; but when the tubercles are very numerous, we may be obliged to await a tardy recovery, procured by constitutional means.¹ Finally, we must not forget the happy in-

¹ This statement must be modified, as the last ten years have developed methods of treatment, not in vogue when HARDY wrote, which are capable of controlling the great majority of cases.

fluence sometimes exerted by intercurrent disease, as we have more than once known deep ulcerations, which for a long time resisted treatment, promptly heal after an attack of erysipelas, or one of the eruptive fevers.

The foregoing description of the scrofulides, or varieties of lupus, as they are more commonly called in Germany, England and America, presents their clinical features and mutual relations more clearly and distinctly, I think, than will be found elsewhere. For the better understanding, however, of these affections, and of the recent literature concerning them, it will be well to consider some of the points not fully elucidated by HARDY, and also the views of other writers.

The strumous nature of these affections is admitted by most modern authorities, VIRCHOW and HEBRA, however, dissenting. CAZENAVE¹ regards them as manifestations of hereditary syphilis.

HEBRA through his exponent KAPOSI,² divides "Lupus" into two distinct disorders, one of which he terms Lupus "*Erythematosus*" and the other Lupus "*Vulgaris*." Lupus *erythematosus* corresponds to the erythematous scrofulide of HARDY, and also embraces the corneous variety, although the German writers do not lay as much stress upon the special peculiarity of this variety, the protrusion of the sebaceous plugs, as the French. Lupus *vulgaris* embraces the other scrofulides, with the exception, perhaps, of the phlegmonous variety, which does not seem to be considered by the German writers entitled to the name of lupus.

KAPOSI speaks of lupus erythematosus as presenting two quite distinct clinical varieties differing from each other

¹ Pathologie de la peau, Paris, 1868.

² HEBRA, Hautkrankheiten, B. II., Lief. II., Erlangen, 1872.

somewhat in appearance, and also in their course and prognosis. In the first of these the primitive efflorescence after attaining a diameter of perhaps half an inch begins to sink in the centre, at the same time extending peripherally. In time the central portions lose their color, are depressed below the level of the surrounding infiltration, and in fact, below the level of the normal skin and present a cicatricial aspect, giving us a raised lupous ring circumscribing a circular scar. Sometimes, however, if the patch be of recent date and small, it may undergo resolution without the production of a cicatrix. This I have myself seen as a result of treatment. This termination is denied by HARDY. Upon this point, however, KAPOSI's statement is perfectly distinct: "*Oder die Involution erfolgt in der ganzen Ausdehnung des Lupusherdes so vollständig, dass an dessen Stelle die Haut zur vollständigen Norm zurückkehrt, und keine Spur der früheren Krankheit aufgefunden werden kann.*"¹ This is a matter of considerable importance, and if the observation can be further corroborated it will somewhat modify our ideas concerning the prognosis, and stimulate research for a method of treatment capable of frequently effecting this result.

The second form of lupus erythematosus is characterized by the appearance of a large number of primitive macules scattered over an extended surface, or in some cases confluent. This form, like the other, usually commences upon the face, and the different spots may succeed each other slowly, or, occasionally, with rapidity, giving the affection a somewhat acute character, and involving the trunk and extremities with hundreds of macules in one or two weeks. This form is further liable to certain complications. These

¹ Op. cit. p. 302.

are, first, painful subcutaneous nodes of temporary duration; second, painful œdematous swellings of the skin and tissues about the joints; third, severe nocturnal osteocopic pains; fourth, hemorrhagic bullæ; fifth, adenites of the parotid, submaxillary and axillary glands; sixth, erysipelas which may be mild, or on the contrary severe and fatal. In fifteen females with lupus erythematosus KAPOSI reports nine cases of erysipelas with three deaths.

Lupus "vulgaris," as we have stated, includes the other varieties of this disease, although HEBRA would appear to consider them as stages rather than varieties,¹ a view which is both pathologically and clinically open to many objections.

KAPOSI states that the papillary vegetations (verrucous scrofulide), may undergo transformation into epithelioma, while in the hypertrophic form the increase of new tissue may be so great as to cause the affection to closely simulate Elephantiasis Arabum.

Almost without exception the German, French and English writers admit the possibility of lupus destroying not only the skin, but also the subcutaneous tissue, fasciæ cartilage, and even bone, and many of them² the possibility of its degenerating into epithelial cancer. There is one point, however, in this connection which requires elucidation, and that is the use of the term *rodent ulcer* as employed by some. There are certainly, at least three distinct forms of destructive ulceration of the skin and subjacent tissues including bone. These are syphilis, lupus, and epithelioma. Is there in addition to these a form of de-

¹ Op. cit., p. 327.

² HEBRA Op. cit., pp. 337 and 356.—LANG, Viertelsschrift f. Derm. u. Syph., Jahrg. I. S. 165.

structive ulceration clinically and anatomically distinct from either? Upon this point authorities differ. Mr. HUTCHINSON,¹ for instance, regards the affection as of course not syphilitic, and also essentially different from both lupus and cancer. Mr. MOORE,² on the other hand, ranks it among the cancers, but the majority of writers simply give the name *rodent ulcer* to the most destructive form of lupus, the lupus exedens or *noli me tangere* of the English, the "Tubercular Scrofulide with deep ulceration," of HARDY. Personally I have been unable to recognize it as a distinct affection, and hence consider that the disease represented in Fig. 27. may with propriety be termed either rodent ulcer or lupus.³ This case I had the opportunity of watching for several years, and as its history presents some features of interest I will give it in brief.

CASE I.—J. S., aged 37 years, applied in Oct., 1870, to the New York Dispensary for Diseases of the Skin. The disease for which he sought relief consisted in an irregular ulcer involving the integument about the outer angle of the left eye, together with the greater part of the under lid. Its extent was about one-half that shown in the cut, Fig. 27. In addition there were several small brownish and elastic tubercles upon other parts of the face, ears and scalp. The trouble about the eye commenced some years before as a tubercle just external to the outer angle of the eye. This in time ulcerated. He consulted an advertising "cancer doctor," who applied a caustic plaster. After this application the ulcer gradually enlarged, until it reached the extent related, and other tubercles appeared elsewhere. I proposed that the diseased parts should be thoroughly removed with the knife, and as the infiltration appeared to have extended to the tissue of the orbit underlying the eye, to remove this if necessary, even at the risk of destroying the globe. To this operation he would

¹ Lancet, Aug. 23, 1873.

² Rodent Cancer, London, 1867.

³ Mr. Wilson (Lectures on Dermatology, pp. 98, 99, London, 1875), applies the term "rodent ulcer" to eroding ulcers, dependent upon syphilis, struma or cancer.

Fig. 27.



Fig. 27—Tubercular Scrofulide with deep ulceration, Lupus Exedens or Roent ulcer. Appearance previous to operation.

not consent, and ceased attendance at the Dispensary. I saw him occasionally upon the street, as he lived in the neighborhood, and noticed the gradual increase in the size of the ulcer, and its involvement of deeper structures. In the summer of 1873 he was admitted into the surgical ward of the Charity Hospital, and shortly after, a photograph was taken, from which the cut is engraved. The ulcer continued to increase, and in January, 1874, Dr. J. W. HOWE undertook its removal by the knife. He removed the diseased parts as thoroughly as possible, including the globe, the sight having for some time been lost, and immediately applied strong carbolic acid to the exposed surface. After the fall of the slough, healthy granulations appeared over most of the ulcer, and for two or three weeks progressed favorably. Jan. 15, 1875, he was transferred to the Dermatological wards and came under my care. At this time, the bottom and edges of the wound looked so well, that I contemplated a plastic operation, for the double purpose of improving the appearance of the part and of preventing too great traction upon the upper lip when the scar began to contract. A few days later, however, the border of the wound which lay upon the side of the nose presented a suspicious aspect, being everted and hard. This I removed.

Two weeks later, a growth of pearly-gray color appeared in the superior portion of the ulcer ; this increased rapidly and necessitated removal with the knife ; a return in the same place was treated with the actual cautery. Beside the above, I destroyed several of the tubercles with the solar cautery, potassa fusa, and excision. His strength, however, gradually declined with the increase of the disease, and he died in Sept., 1874, of phthisis.

CHAPTER IX.

THE SCROFULIDES—(*Continued*).

HISTOLOGY.

The histology of the scrofulides is somewhat obscure. Almost our entire knowledge of these affections, from an anatomical point of view, is the result of investigations made in Germany, but as a rule, in describing the morbid changes, the German writers have ascribed them simply to "Lupus," or latterly, to either "L. erythematosus" or "L. vulgaris" without mentioning the specific form that was under consideration. Consequently, while we have a pretty uniform and reliable account of the microscopic changes in the L. erythematosus, L. vulgaris is credited by different writers with widely different appearances.

ERYTHEMATOUS SCROFULIDE, OR LUPUS ERYTHEMATOSUS.—For a knowledge of the histology of this variety we are mainly indebted to the researches of GEDDINGS,¹ NEUMANN,² and KAPOSI.³ The following account is taken from the latter's description in HEBRA.⁴

At the period when the affection is still beneath the surface, and before the efflorescence appears plainly in

¹ Sitzb. der k. k. Wiener Akad., LVII. B. III.

² Lehrbuch der Hautkrankheiten, 1870.

³ Archiv für Derm. u. Syph., 1869 and 1872.

⁴ HEBRA, Hautkrankheiten, B. II. S. 312.

view, we observe upon microscopical examination an enlargement of the sebaceous glands, due to an increase in the size of their enchymatous cells, with dilatation of the capillaries, and œdema of the connective tissue

Fig. 28.



Fig. 28.—Lupus Erythematosus (GEDDINGS): *a*, sebaceous gland. *b*, cell infiltration surrounding the gland.

surrounding the glands. When the papules are situated more superficially, we find capillary enlargement, and œdema of the tissue surrounding the hair-follicles and

mouths of the sebaceous ducts, with increase in the size of the neighboring papillæ. At a still more advanced period we have abundant cellular infiltration of the corium around the follicles and glands. The cells have large nuclei, which imbibe carmine readily. In some cases this infiltration is so great that it obscures the vessels and connective tissue, and even to a certain extent the contour of the papillæ. When the central depression in the patch appears, the infiltrated cells corresponding to it undergo fatty degeneration. Finally, when the cicatricial process is fully developed, we find vascular atrophy, degeneration of the external root-sheaths of the hairs, disappearance of the pigment, with atrophy of the sebaceous glands, and of the surrounding connective tissue. The earlier changes are well shown in Fig. 28.

In the cases where hemorrhagic bullæ appeared in connection with the eruption, KAPOSI found in addition, decided alteration of the sweat-tubes, with a rich cellular infiltration around them. An important point in connection with these processes is the fact that the alteration in the sebaceous glands precedes the surrounding infiltration.

LUPUS VULGARIS.—In examining the literature pertaining to the histology of *L. vulgaris*, we are struck with the variety of morbid appearances which have been ascribed to this affection. This is mainly due to the comprehensiveness of the name under which they have been described, and the fact that observers have generally failed to state the particular variety, form, or stage of the lesion, the microscopic appearances of which they recorded. The following comprehend the principal changes found by different observers:

Hyperplasia of the sebaceous glands—FOERSTER,¹ VEIEL,² RINDFLEISCH,³ VIRCHOW (according to SIMON).⁴

Hyperplasia of the rete Malpighii—BERGER,⁵ POHL.⁶

General diffuse small-cell infiltration—AUSPITZ,⁷ VIRCHOW,⁸ NEUMANN,⁹ KAPOSÍ,¹⁰ ESSIG.¹¹

Little masses of closely-packed cells, forming small nodules, "cell-heaps"—KAPOSÍ, ESSIG, WARREN,¹² HOMOLLE.¹³

Giant-cells (Riesenzellen, myclopaxes)—FRIEDLANDER,¹⁴ LANG.¹⁵

Concentric stratification of cells—HOMOLLE, WARREN.

Perivascular cell-sheaths—KAPOSÍ, ESSIG.

Before analyzing these, however, I will state the appearances which I have myself observed :

1. A TUBERCLE REMOVED FROM RIGHT SIDE OF THE NOSE, NEAR THE EYE.—A perpendicular section showed the tumor to be composed almost entirely of a single sebaceous gland which had undergone great acinous enlargement. The different acini were closely packed with cells, the peripheral ones being large and nucleated. The central cells were stratified, and refused carmine, but imbibed picric acid freely. Commencing alterations were found in a neighboring gland, but as yet no attempt at stratification of its cells. One hair-follicle was found in the section ; the hair was atrophied and partly

¹ Atlas der microsk. -patholog. Anatomie, Leipsic, 1854-1859.

² Mitth. üb. die Behandl. d. chron. Hautk., Stuttgart, 1862.

³ Lehrb. d. path. Gewebelehre, Leipsic, 1867-1869.

⁴ Die Hautk. durch anatom. Untersuch., Berlin, 1851.

⁵ De Lupo, Gryphiæ, 1849.

⁶ Ueber Lupus, Virchow's Archiv, B. VII.

⁷ Ueb. Zelleninfiltrationen der Lederhaut, Wien, med. Jahrb., 1864.

⁸ Krankhafte Geschwulste, B. II.

⁹ Lehrb. der Hautk. Wien, 1873.

¹⁰ HEBRA, op. cit.

¹¹ Archiv für Heilkunde, 1874.

¹² Anatomy and Development of Rodent Ulcer, Boston, 1872.

¹³ Archives gén. de médecine, Mars, 1875.

¹⁴ Virch. Arch., B. LX., H. I.

¹⁵ Vierteljs. für Derm. und Syph., B. I., S. 195, 368 and B. II., S. 3.

disorganized, the follicle very wide and filled with a mass of cells resulting from hyperplasia of the root-sheath; hyperplasia of the contiguous gland-cells, moderate diffuse small-cell infiltration of the connective tissue. (Plate II, Fig. 1.)

2. TUBERCULAR SCROFULIDE, WITH DEEP ULCERATION.—Two contiguous tubercles removed from right side of the chin of J. S.,¹ one of them just commencing to ulcerate. On section found the stratum corneum normal, except upon the border of the commencing ulceration. The rete Malpighii was thickened, with deep and wide prolongations, downward, separating long but extremely narrow papillæ. There was slight hyperplasia of the sebaceous glands. The most characteristic changes were a large number of "cell-heaps," consisting of collections of small, closely-aggregated cells, the cells being sometimes round, but most frequently oval—the outermost row of cells having their long axes in the direction of radii. Most of these cell-heaps measured from .2 mm. to .8 mm. in diameter, but varied in outline. The cell-heaps were very distinctly separated from the surrounding connective tissue, due probably to greater shrinkage of the cells during the processes of preparation. In many places there were vacant spaces, as if cell-heaps had dropped out during manipulation. The surrounding connective tissue was sparingly infiltrated with small round cells, but there was a decided increase in the number of fusiform and branched corpuscles. In some of the larger cell-heaps there were one or more foci, around which the cells were apparently commencing to exhibit concentric stratification. The vessels were not surrounded by cell-sheaths, but the rod-like nuclei belonging to their contractile coats were very much lengthened. Diffuse small-cell infiltration was an unimportant feature; no giant-cells found. (Plate II, Fig. 2).

3. TUBERCULAR SCROFULIDE, WITH SUPERFICIAL ULCERATION.—Ulcerating tubercle from nose of A. C., aged twenty-four, removed by excision, March 15, 1875, ten years after first appearance of the lesion. The ulcer was about 10 mm. in diameter, and surrounded by an elevated ring and bluish-red areola. After alcohol-hardening, sections were examined, some in glycerine and acetic acid, others stained with carmine, in glycerine, others stained with osmic acid, and others with carmine and logwood, and mounted in damar.

¹ This was the patient whose history is given in the last chapter.

Stratum corneum, rete Malpighii, and papillæ absent from the ulcerated surface; upon the raised border, stratum corneum normal; rete sends down deep, but not broad, prolongations, cells of the rete presenting nothing unusual; the whole corium and subcutaneous tissue down to the muscles (*pyramidalis nasi*) thickly packed with small-cell infiltration, muscular layer exempt. These cells were mostly round, and could be distinguished from each other simply by the deeply-stained nuclei three *micra* in diameter. When detached from the mass and examined alone, were found to be surrounded by a thin transparent layer of protoplasm, a few with thicker protoplasm giving the cell a diameter of five to seven *micra*.¹ Many nuclei without protoplasm, connective-tissue corpuscles of various forms. In addition, there were certain oval bodies sharply defined from the surrounding infiltration, and varying from thirty *micra* by twenty *micra*, to others double this size. A small one, isolated from the mass and measuring thirty *micra* by twelve, was composed of very transparent, finely-granular protoplasm, and contained eight oval nuclei, most of them being near the periphery of the cell. These are the giant-cells (*Riesenzellen*) of FRIEDLANDER and others. Larger ones contained forty or more nuclei. These giant-cells were only found in the floor of the ulcer, that is, in the older portion of the lesion, and not at all on the parts still covered by epidermis. These cells contained no highly-refractile particles, and were not specially stained by osmic acid. No sebaceous glands or remnants of them were found in any of the sections. Sudoriparous glands unaltered; capillaries enlarged, but not surrounded by cell-sheaths; connective tissue normal, except where obscured by the infiltration; elastic fibres very abundant.

4. HYPERTROPHIC TUBERCULAR SCROFULIDE OF VULVA. (Thin sections loaned me by Dr. J. W. S. ARNOLD.)—In the newer portions of the growth, it was found to consist of a mass of small round cells permeated everywhere by new vessels quite close together, running sometimes parallel, and sometimes with a radial distribution, but not reaching quite to the surface; vessel-walls thin, no perivascular cell-sheaths. Transverse sections gave circular outline to the vessels, which sometimes contained white, but usually red

¹ One *micra* is one-thousandth of a millimetre or about one twenty-five-thousandth of an inch.

blood-corpuscles in abundance (Fig. 29a). In addition, large and irregular, though mostly oval, cavities, containing red blood-corpuscles, with distinct contours. Diffuse infiltration of red corpuscles through large tracts, mingled with round nucleated cells. Long, flask shaped prolongations of rete-cells, running obliquely downward. These prolongations were frequently six to ten times wider in the deeper portions than near the surface. In one or two places, commencing stratification of cells. In old portions of the growth, newly-formed, broad, fibrillar connective-tissue bands mingling with the above (Fig. 29c). In a few places compact masses of small cells, such as found in specimen No. 2; no giant-cells. With the exception of these rare cell-heaps, the other appearances are such as is found in germinal tissue generally.

5. PUSTULAR SCROFULIDE of twenty years' standing, in a patient at the Charity Hospital. A small and quite superficial portion of not yet ulcerated integument from the cheek was removed with scissors, and immediately placed in saturated solution of nitrate of silver in ninety-five per cent. alcohol. After hardening, thin sections were made and treated in different ways. Owing to the small size of the piece removed, and the strength of the alcohol, the tissue was much shrunk and not in the best condition for examination. The following points, however, were ascertained: The horny epidermis was thicker than usual, but easily detached. At different points in this layer were found small oval collections of round cells, encapsuled as it were, underneath which there was a stratum of horny cells which freely imbibed carmine; but underneath this stratum there was another, lying next the rete, which refused carmine. The cells forming these collections did not imbibe carmine readily, and were distinguished from the ordinary horny cells with difficulty, owing to the impregnation of the superficial horny cells with blackened silver. The cell-collections, however, could be distinguished with great ease by the aid of polarized light, as these cells depolarized the light much more strongly than the neighboring stratum corneum. The rete was thicker than usual, with deep interpapillary depressions. Stellate corpuscles blackened by silver were scattered through this layer. The papillæ were enlarged, contained many blackened stellate corpuscles, and some were found partly in the papillæ and partly in the rete. There was comparatively little small round-cell infiltration in the superficial parts of corium. As the sections did not in-

clude the deeper parts of the cutis, nothing can be said concerning it. There were no cell-heaps or giant-cells. No other changes of importance were noted.

6. A non-ulcerated tubercle, subsequently removed from the arm of the same patient by Dr. KEYES, and hardened in Muller's fluid, upon examination presented a thickened non-adherent stratum corneum, in which were collections of small oval pigment-cells (it is possible that the cell-collections found in the previous specimen were of the same character) without apparent nucleus, but crowded with fine pigment-granules. The rete was thickened, with deep and narrow depressions, papillæ lengthened but narrow; slight and scattered small round-cell infiltration; evident perivascular cell-sheaths, both about the papillary loops and deeper vessels.

Fig. 29.

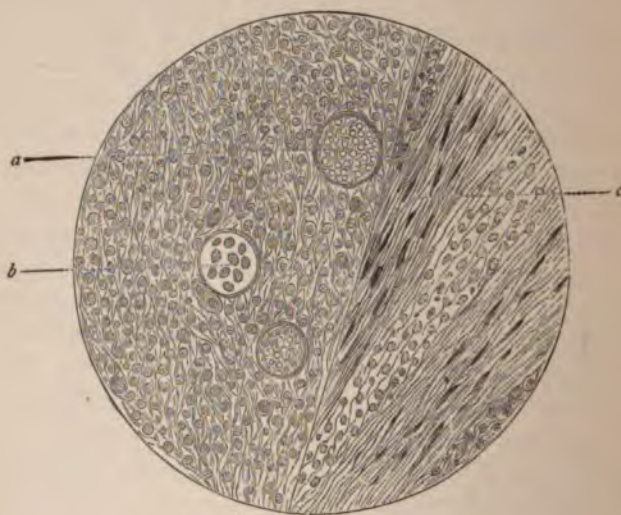


Fig. 29—Hypertrophic Tubercular Scrofulide. To the left, younger growth; to the right, older growth: *a*, cross-cut of a new blood-vessel filled with red corpuscles. *b*, vessel containing white corpuscles, young granulation tissue surrounding. *c*, young connective tissue in bands.

It will be seen from the digest of the observations of others that lupus vulgaris presents very manifold micro-

scopic appearances, and it will be noticed that the changes observed by myself coincide with those of previous observers, with this difference, that, with the exception of ESSIG, the writers cited have laid special stress upon the particular appearances which I have arranged before their names, while my own examinations have presented different changes, varying with the differing clinical varieties observed. For instance, FOERSTER, VIRCHOW (according to SIMON), and RINDFLEISCH, describe the lesion of L. vulgaris as a change in the sebaceous glands, RINDFLEISCH calling it an *adenoma* of these glands, and going so far as to declare that he can diagnosticate lupus microscopically by these changes alone. This exclusive position is not tenable, as, of the six specimens examined by me, this adenomatous condition was exhibited in but one. *Hyperplasia of the rete*, specially dwelt upon by the older observers, POHL and BERGER, was exhibited in my fourth, fifth, and sixth specimens. *General small round-cell* infiltration, which the majority of observers regard as a prominent, though not *characteristic* feature,¹ was not observed in a marked degree except in my fourth specimen. The *cell-heaps* were specially noticeable in my second, while the *giant-cells*, constantly found by FRIEDLANDER, were only detected in my third. *Concentric stratification* of cells was noticed in my first, with somewhat suspicious indications in the second. *Perivascular* cell-sheaths, so frequently observed by KAPOSÍ and ESSIG, was not a prominent feature in any of my own specimens, in fact was distinctly determined in but one. The writers cited have been inclined to regard the appearances observed by them as more or less characteristic of lupus vulgaris, with the sole excep-

¹ Similar infiltrations are found in syphilis, leprosy, simple inflammation, and in a host of other conditions.

tion of ESSIG, who, in examining some fifteen specimens, met with most of the diverse appearances which I have myself encountered.

We may, then, conclude that the different scrofulides or varieties of lupus do not present identical histological characters. It remains to be seen whether the different *clinical* varieties, described by HARDY and accepted by myself, present features peculiar to themselves. This point can only be determined by repeated and careful examinations of each variety in its different stages. The solution of this question will be greatly facilitated by the adoption of a uniform nomenclature. The German school have given us simply *L. erythematosus*, and *L. vulgaris*; the English, *L. exedens* and *L. non-exedens*; while the French (HARDY), more philosophically, I think, have accepted the classification which has been here adopted.

The next point to be considered is whether the different scrofulides of HARDY are *varieties* or *stages* of lupus. Any one at all familiar with histological studies, and who considers the many histological changes hereinbefore described, will have no hesitation, I think, in accepting the clinical condition as *varieties*, and not simply *stages*, as maintained by KAPOSI¹ and SQUIRE,² if I rightly understand them.

We must now consider the origin of the observed changes. As regards the *hyperplasia* of the *sebaceous glands* and *stratification* of their contents, it may be stated, as a general rule, that when epithelium undergoes extensive proliferation, and is at the same time restrained by unyielding boundaries, it is obliged to stratify, as in the condition with which we are all familiar in epithelioma.³ The *hyper-*

¹ HEBRA, op. cit.

² Lupus-Disease of the Skin, London, 1874.

³ The first of my cases would undoubtedly have blossomed out into a frank epithelioma if not interfered with.

PLATE II.

To face page 113.

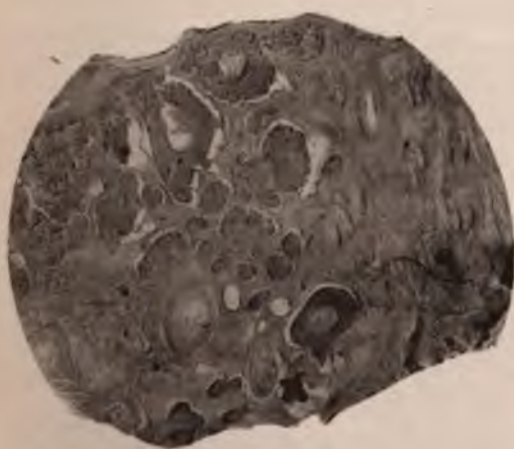
PLATE II—*Fig. 1.*—Section of a Lupus tubercle (Specimen No. 1, page 106). An enlarged and altered sebaceous gland with contents partly stratified. $\times 12$.

PLATE II—*Fig. 2.*—Section of a Lupus tubercle (Specimen No. 2, page 107). Roundish collections of cell heaps infiltrating the corium. $\times 35$.

Plate II.



PIFFARD, PHOTO.



E. BIERSTADT, ALBERTYPE.

-

1

1

1

plasia of the rete is a simple histological process. The general diffuse cell-infiltration admits of two explanations. The small round cells are either derived from proliferating connective-tissue corpuscles, as maintained by VIRCHOW, or are leucocytes, as would be declared by the modern school of COHNHEIM. I confess that the older view of VIRCHOW seems to me the more probable of the two.

The only explanation of the occurrence of the cell-heaps has been offered by WARREN,¹ who in some of his cases found the remains of capillary blood-vessels within the cell-clusters, and in others an appearance which suggested an invasion of the lymphatic spaces and capillaries. In my own case (specimen No. 2) I was unable to detect any central vascular remnants, and am inclined to believe that the cell-heaps are derived either from proliferating cells of the rete, or else from the endothelium of the lymphatics, after the manner described by KOESTER² in connection with epithelioma.

Giant-cells, such as here described, have been found by FRIEDLANDER, SCHUPPEL, and others, in tuberculous deposits and scrofulous glands, and are regarded by LANG³ as evidence of retrogressive changes. This is not probable, in view of the fact that they are found largely in foetal marrow (ROBIN), and quite recently between pieces of glass inserted under the skin of dogs by ZIEGLER.⁴ As yet no reasonable explanation of the genesis of these cells has been offered.

¹ Op. cit., p. 33.

² Die Entwicklung der Carcinome u. Sarcome, Würzburg, 1869.

³ Loc. cit.

⁴ Exper. Untersuch. ü.d. Herkunft der tuberk. Elemente, u. s. w., Würzburg, 1875.

The concentric stratification of cells is manifestly due to pressure.

The perivascular cell-sheaths are supposed to be due to an exudation or diapedesis of white blood-corpuscles, which collect in the perivascular spaces, an explanation which must be accepted until a better is offered.

What light, if any, does this review of the histology of lupus throw upon the nature of the disease? It teaches us that some of the scrofulides are to all intents benign; while others, those characterized by cell-heaps and cell-stratifications, are, to say the least, semi-malignant and closely allied to epithelioma. Clinically they have been found to bloom out into typical epitheliomata (HEBRA, LANG, and others), and it is no more than we would have a right to expect from the microscopical appearances which they present.

TREATMENT.—The intractable nature of these affections, and the disfigurements which they frequently produce, invest this portion of their history with an intense practical interest, and lead me to present somewhat at length, the views of those who are able to speak advisedly upon the subject.

The *internal* treatment should be that which is advisable in scrofula generally, and need not be considered in detail. Arsenic, though praised by some, has not appeared to me to influence the course of the disease in the slightest degree. Repeated and prolonged trials of both Fowler's and Donovan's solution (liq. hydrarg. et arsen. iodidi) have always caused me to regret the time lost in using them. The most appropriate internal treatment, however, is rarely, if ever, capable of removing the existing lesion, its sole office being, by bringing the general system into a more normal

condition, to facilitate the action of external applications, and to diminish the chances of relapse, and it is to the *external* treatment, that we must mainly look for the cure of the affection.

If we remember that the natural tendency of these affections is to extend indefinitely, and almost invariably to leave cicatrices, the indications for treatment are perfectly plain; namely, to check the spread of the eruption, and to cure the existing lesion with the least possible scarring. The details of treatment will vary with the particular variety under notice, and will be considered in the order in which they have been given.

TREATMENT OF THE ERYTHEMATOUS AND CORNEOUS SCROFULIDES (*Lupus Erythematosus*).—KAPOSI recommends frequent frictions with the *spts. saponatus kalinus*,¹ and states that he has thus caused the lesion to disappear with leaving the slightest trace. I have had the same happy result follow the use of glacial acetic acid applied bi- or tri-weekly. Both of these applications act superficially and without producing an eschar, and seem to effect their purpose by causing absorption. I have likewise had excellent results follow repeated and energetic frictions with the following:

R:
 Saponis viridis, ℥viij
 Glycerini,
 Olei cadini, āā. ℥ij
 Ol. rosarum, q.s.
 M.

¹ R.

Saponis viridis, lb. ij.
 Alcohol, lb. j.

M. Let it stand for twenty-four hours, filter and add spts. ℥

These preparations should be used in preference to stronger caustics, which, destroying tissue, would necessarily be followed by a cicatrix. The only objection to this treatment is the length of time required. In a few more fortunate instances a cure may result in a few weeks from twenty or thirty of the frictions, or applications of the acid, but commonly their use must be prolonged for several months. These means are admirably adapted to recent patches, and may result, as observed by KAPOSI and myself, in perfect cure. If, however, the eruption has already existed for some time, and portions of it, especially the central and older parts, begin to exhibit atrophic changes, it will be vain to hope for recovery without cicatrix. Under these circumstances the centre of the lesion may be left to take care of itself, and attention be confined to the periphery, that is, to the advancing border. If the preparations spoken of do not appear to act with sufficient vigor, the pure *sapo viridis*[†] may be substituted for them, applied daily with friction, or spread upon a piece of linen, and left in contact with the parts for several hours. If the green soap cannot be readily obtained, a solution of caustic potassa, 25 per cent. to 50 per cent., may be used instead, applied once a week or at more distant intervals according to the effect produced. The acetic acid and sol. of potash are usually applied with a camel's-hair brush or a glass rod. Both of these methods, however, are objectionable, as they are apt to deliver an excess of the fluid, which runs over and injures healthy parts. A much better way is to employ a small hard-rubber probe around the end of which a little cotton-wool has been wrapped. Stronger caustics than

[†] *Sapo viridis* or green soap, so much used in Germany, is composed of *adeps ceti*, lb. ij., sol. of hydrate of potash (sp. gr. 1.33), lb. j. HEBRA.

these mentioned are rarely required, unless speedy destruction of the lesion is necessary; in which case *potassa cum calce* or chloride of zinc may be employed. When the lesion is small and its early extinction desired, I prefer removing it (*agrote volente*) by excision.

DUBINI,¹ and more recently VOLKMANN,² prefer to remove the infiltration by means of hundreds of fine punctiform scarifications. These are made with a small sharp-pointed knife to the depth of two millimetres. The punctured spots should be covered with lint well pressed on, to stop the bleeding, and left attached until it falls spontaneously. The operation should be repeated in from two to four weeks, from three to eight operations being usually sufficient. VOLKMANN says that no scarring results from the treatment. I have had no personal experience with this method in the erythematous scrofulide, but have used a modification of it in the next variety.

TREATMENT OF THE PUSTULAR SCROFULIDE.—The local treatment of this variety is quite simple. As scarring is inevitable, we may attack the lesion with some vigor. If it be in an early stage, without much ulceration, I have had good results from linear scarifications, followed by green soap. When, however, there was considerable ulceration, it was formerly my custom to make a few superficial cauterizations with the liq. hydrarg. nitratis, followed by the application of a mercurial ointment (usually the protoiodide, ten grains to the ounce). NELIGAN³ and WEISSE⁴ have used with advantage the acetate of zinc. In this way,

¹ Rapporto annuale dei Malati Cutanei dell' ospedale magg., Milano, 1865.

² Ueber den Lupus und seine Behandlung, Leipzig, 1870.

³ A Practical Treatise on Diseases of the Skin, Am. Ed. Phila., 1860.

⁴ Am. Jour. of Syph. and Derm., vol. I. p. 316.

the ulceration may sometimes be coaxed to heal, but the process is tedious, and the resulting cicatrix often unstable. Latterly, I am inclined to prefer more rapid and energetic measures, such as thorough cauterization with the chloride of zinc. The chloride exposed to the air until it has sufficiently deliquesced, is applied to the ulcer in a thin layer by means of a platinum spatula. It is then covered with a piece of lint cut to fit the part, and the whole left to itself until the eschar falls, which may not occur for a week or ten days. Upon removal of the crust healthy granulations will usually be apparent (and sometimes complete cicatrization), but if not, the cauterization must be

Fig. 30.



repeated. In case the floor of the original is covered with large, uneven, and papillomatous granulations (*verrucous form*), it is best to remove them by thorough scraping with the "sharp spoon" (Fig. 30), an instrument specially recommended in this connection by VOLKMANN. It is also well to give the edges a good scraping with the spoon. The morbid tissue yields more readily than the healthy, and a considerable portion of the disease may be thus removed mechanically. When a somewhat level surface has been obtained, apply the zinc in the manner described, and, after the fall of the crust, repeat the operation if necessary.

TREATMENT OF THE TUBERCULAR SCROFULIDE WITHOUT ULCERATION, OR WITH SUPERFICIAL ULCERATION.—If ulceration has not yet occurred, we have several methods of treatment from which to choose. The indications are to

check the spread of the lesion, and to do so with the least scarring. Excision may be practiced, and is to be preferred if the lesion is limited and there is sufficient extensibility of the surrounding skin to permit of coaptation of the edges of the wound, so that we may hope for a linear cicatrix. If the lesion is small and quite superficial, it may be readily removed with the skin-grafting scissors (Fig. 22). Excision to be effectual must be thorough, both as to depth and extent. As the morbid deposit in this variety, rarely extends beneath the subcutaneous tissue, and usually ceases at the lower part of the corium, no difficulty will be experienced in this direction; but the infiltration is apt to extend laterally for some distance beyond the points at which the disease is evident, and consequently the incisions should be made at least two or three millimetres beyond the apparent limit of the lesion; otherwise a speedy return of the trouble may be anticipated. If the situation of the disease or the condition of the parts renders excision undesirable, the tubercles may be destroyed with nitrate of silver. This method is largely practiced in Vienna, and consists in boring into the diseased tissue with a sharpened point of fused nitrate. The points of silver prepared by SQUIBB, to which he adds a little chloride, to make them harder, are admirably adapted to this purpose. Many of the tubercles, or rather papules, are quite small, and boring into them with the ordinary caustic points inflicts unnecessary pain and injury upon the adjacent healthy tissues. To obviate this, I have for several years used a probe made of irido-platinum,¹ of the form and size shown in Fig. 31. The point of the needle is dipped in fused nitrate (SQUIBB's is better for this purpose

¹ Pure platinum needles would be too soft and flexible.

than the pure), a thin layer of which immediately congeals around it. As soon as it is cold, a second or a third dipping will increase the deposit of silver sufficiently. With these needles quite small punctures may be made, and are less painful than those made with the ordinary silver stick. Instead of nitrate of silver, nitrate of zinc may be em-

Fig. 31.



ployed. It is used in exactly the same manner as the silver but is a much more energetic caustic. If the irido-platinum needles are not at hand, ordinary straight surgeon's needles may be used, but are not so convenient and are soon destroyed. Actual or galvano-cautery may be employed, but possess no advantages over simpler measures, except the opportunity they afford for display.

Lastly, the disease may be destroyed by means of arsenical paste. HEBRA speaks of this method so enthusiastically that I shall give his description in full. The formula employed is:

R:

Acidi arseniosi, gr. xx

Cinnabaris, ʒj

Ungt. rosæ, ʒj

M.

The paste should be thinly spread upon linen, which is cut in narrow strips and accurately applied to the affected part. It is then covered with lint and held firmly in place with adhesive plaster. It is left in position for twenty-four hours, when a fresh application is made without previous washing. At the end of another twenty-four hours it

is again applied. During the first day the parts to which the application has been made, present very little alteration and are not very painful. At the end of the second day of treatment, however, the pain increases, and when the plaster is removed, the tubercles are found to have a grayish color and macerated aspect. After the third application the pain becomes still more severe, and the integument surrounding the lupus patch becomes the seat of considerable œdema. On removing the plaster at the end of the third day, all the tubercles, both large and small, are found reduced to the condition of a brownish-black eschar, and covered with a thin pus. The eschars correspond to each tubercle, and are sharply defined by the intervening healthy skin. The pain ceases quickly and completely, and the œdema disappears in two or three days. The great advantage of this arsenical paste consists in its not injuring or even excoriating the healthy skin, while the morbid tissue is safely and thoroughly destroyed.

The little sloughs, which are as numerous as the pre-existing tubercles, are loosened by suppuration, and removed in five or six days, leaving small holes separated from each other by islets of healthy skin. Cicatrization is rapid, and the resulting scar not very noticeable.

Sometimes two applications are sufficient; or again, if the tubercles are large and covered with thick epidermis, two or more courses may be necessary. Arsenical poisoning has not occurred in any of the hundreds of cases treated by HEBRA in this manner.

If the tubercles have already *ulcerated*, they may sometimes be coaxed to heal, as already stated, by stimulating applications of acetate of zinc and the like; but it is better to excise, subject to the restrictions above noticed. If ex-

cision is contra-indicated, the ulcer and its margin may be well scraped with the sharp spoon, and then cauterized with the chloride of zinc, or a mixture of equal parts of caustic lime and caustic potash made into a paste with absolute alcohol. The fall of the slough will usually reveal a healthy ulcer with a tendency to heal. I much prefer caustics, to the simply stimulating applications, as the latter have in my hands more frequently produced an effect opposite to the one desired.

In the *hypertrophic* form, excision when convenient, or destruction by the actual or galvano-cautery or by electrolytic needles, seems to be the most reliable method; but never having had this variety under treatment, I cannot speak from personal experience.

TREATMENT OF THE TUBERCULAR SCROFULIDE WITH DEEP ULCERATION.—This form demands the most prompt and energetic treatment. In the previous varieties it was at most a question of disfigurement, but in this it is a question of life and death, for if the destructive processes are not checked, a fatal result is by no means rare. In this condition there is but one method to be relied upon, and this is excision, followed by cauterization. In recent cases this presents no difficulty; but when the disease has already advanced to a considerable extent, and the bones have commenced to suffer, the indications are not so easy of fulfillment. These cases were formerly regarded as incurable, and active measures were not recommended. Mr. MOORE, however, in his admirable monograph upon *rodent cancer*¹ as he terms the affection, has demonstrated the possibility of curing cases characterized by a very extensive destruction of deep tissues, cases which would usually be

¹ Rodent Cancer, London, 1867.

regarded as hopeless. His plan consists in removing the diseased parts as thoroughly as possible with the knife, and afterwards applying a layer of deliquesced chloride of zinc. The wound is then packed with cotton-wool, which is left in position till thrown off by suppuration and the formation of healthy granulations. Plastic operations may then be employed to remedy the deformity.

TREATMENT OF THE PHLEGMONOUS SCROFULIDE.—In the early stages, and before suppuration has occurred, the nodules may sometimes be caused to disappear by the employment of frequent frictions with the ungt. iodi, or ungt. potassi iodidi; but if they have already softened and contain pus, this should be removed by a fine puncture and suction with a hypodermic syringe, with the subsequent instillation of a drop or two of iodine. This is much better than the free incision recommended by some, and is also better than leaving the lesion to take its own course, as in the latter case considerable scarring is inevitable. If the abscess has already opened and an ulcer formed, it should be freely stimulated, and perhaps cauterized with some of the agents already mentioned.

Lupus, in its several varieties, is far from being the intractable disease it was formerly considered, and, when properly managed, is in the majority of cases perfectly curable. It is only a question of time, patience, and the judicious selection of remedial agents adapted to the particular case under consideration.

CHAPTER X.

THE RHEUMIDES.

The term Rheumides, implies the existence of a constitutional condition or diathesis to which these affections may be properly referable. This at the outset, involves the consideration of three important points. The first of these, is, as to the veritable existence of such a diathesis; the second, as to its nature; and the third, as to whether the affections which we have assigned to it really come within its influence.

Argument in support of the existence of the rheumatic diathesis would hardly seem to be necessary were it not for the fact that it is denied *in toto* by the German school; a school whose invaluable contributions to dermatology entitle its views to our highest respect.

Looking to the past, we find that from early times in the history of medicine there has been a more or less prevalent belief in the existence of a general condition intimately connected with certain cutaneous affections, and which was recognized by the Greeks under the name of *psora*. This term, though frequently used with great vagueness, still represented a prominent idea, and corresponded to the "*scabies*" of the Romans (CELSUS), the affection to which the name *eczema* is to-day applied.

PAULUS ÆGENITA included psoriasis, as well as *eczema*, under the term *psora*.

RHAZES¹ describes two kinds of "scabies," the moist, and the dry, and places "pruritus" in intimate connection with them. He attributes them all to "*humores adustos*" and originating "*ex sanguine et phlegmate falso*." The "scabies" here mentioned was equivalent to the ancient psora or modern eczema, and the "pruritus" was probably the lichen or papular eczema of the present day.

Leaving the distant past and coming to the dawn of modern systematic dermatology we find PLENCK² using the term "scabies" with very great looseness, making no less than eight varieties, of which but one, "scabies verminosa,"³ corresponds to the affection now called by this name. The "scabies capitis" of PLENCK, however, plainly includes eczema and "*est critica evacuatio humoris acriminosi, qui per glandulas capillitii excernitur*."

Later we find that instead of the Roman "scabies" or eczema being the principal feature of psora, the modern scabies or itch proper, by a curious confounding of terms became its chief synonym. The itch then, became the representative of psora; and although by most regarded as a local affection, was still by many believed to be of constitutional origin. This view was especially elaborated by HAHNEMANN⁴ and carried to such extravagant lengths that reaction was the natural consequence. The idea of the constitutional nature of the itch was finally overthrown by RENUCCI'S⁵ demonstration that the *acarus scabiei* was unquestionably the cause of the affection; and from that time the idea of psora as a constitutional disease no longer ex-

¹ Latin Translation, Basileæ, 1544.

² Doctrina de Morbis Cutaneis, p. 41, Viennæ, 1776.

³ Est scabies, in qua vermiculi seu acari reperiuntur, p. 42.

⁴ Organon of homeopathic medicine.

⁵ GRAS, Recherches sur l'*acarus*, Paris, 1834.

isted in the minds of the majority. Modern scabies was the parasite which destroyed the diathetic claims of the ancient and more respectable psora; and hence the German notion of the local nature of all these affections.

Turning to England, we find the original idea prevalent in the early part of this century. PARR,¹ speaking of psoriasis, says: "It is more strictly the *dry itch* which in compliance with authors we have mentioned under the last article, (Psora)." "It is always apparently connected with some disorder in the constitution, often with gout and rheumatism. The seminum of the disease is apparently in the constitution."

Later this use of the term psora became corrupted as in Germany, and we find PLUMBE² confounding it with parasitic scabies. The constitutional nature, however, of the affections which it formerly included, was not given up, and is at the present day steadily gaining ground in England.

In France we find a cutaneous diathesis distinct from syphilis and scrofula, accepted almost without dissent; this diathesis is commonly known as the "*dartrous*," and synonymous with darte, we find a revival of the ancient term *herpes*.

HARDY³ believes that the term dartres may with propriety be applied to a very natural family of cutaneous affections, possessing many common characteristics to which he alludes. In general terms he describes those subject to this diathesis as "in appearance enjoying all the attributes of good health, but who are yet in a peculiar state which cannot be considered perfectly sound. Their integument

¹ London Medical Dictionary. Am. Ed., Phila., 1819.

² Practical treatise on the diseases of the skin, 4 Ed., London, 1837.

³ Leçons théoriques et pratiques sur les mal. de la peau, Paris, 1860.

is habitually dry, and perspiration is diminished. The skin is often the seat of lively itching, even in the absence of eruption. The appetite is generally well developed, and it is well known that the dartrous eat a much greater quantity of food than other patients in analogous conditions. Another important peculiarity is the extreme sensibility of the skin, and the facility with which it is influenced by the lightest and most fugitive impressions. Sometimes general excitement, alcoholic excess, watching, use of coffee, of certain kinds of food; sometimes a local excitement, irritating frictions, or the application of a plaster, will give rise to an eruption, often ephemeral, and not dartrous in character, but which reveals a particular predisposition of the economy, and the existence of a latent vice which needs but a favorable occasion to manifest itself." To this diathesis HARDY ascribes eczema, lichen, psoriasis and pityriasis.

GIGOT-SUARD¹ under the title of *herpetism* includes the affections just mentioned, and in addition a few others whose claims to this position appear to me to be somewhat doubtful.

BAZIN² separates the dartre or herpetis of HARDY and the majority of French writers, into two principal diseases, which he calls respectively, dartre and arthritis, and between which he endeavors to draw distinctions which are in many cases so delicate as to be hardly appreciable. He adds to the list of affections, a number which appear to be accidental rather than essential to either of these diatheses.

In Italy, where cutaneous diseases have been studied

¹ L'herpetisme, Paris, 1870.

² Lec. theorig. et cliniq. sur les aff. cut. de nat. Arth. et Dart., Paris, 1868.

with great zeal and scientific care, we find a general acceptance of the herpetic and arthritic diatheses.¹

Coming finally to America, we find a very wide-spread belief in the existence of a constitutional condition manifested by certain cutaneous eruptions, which have received the common name of *salt-rheum*. It is this diathesis, equivalent to the *dartre* of HARDY, the *herpetism* of GIGOT-SUARD, the *herpetis* and *arthritis* of BAZIN and Italian writers, and the *psora* of the ancients for which I propose the term *rheumic* as a designation.

The existence of this diathesis cannot be considered completely proven, as the very nature of the case renders an absolute demonstration impossible. In this, as in most other theoretical questions in medical science, we are obliged to form our opinions by the preponderance of probability on one side or the other, and the ability of the theory to explain the observed phenomena. In favor of this diathesis we have the concurrent opinions of many intelligent and experienced observers, running through long periods of time, and by its acceptance a means of explaining many occurrences which would otherwise be inscrutable.

The second question which requires consideration in this connection, is the nature of the rheumic diathesis. This is not simply a matter of theoretical interest, but is of the utmost practical importance from a therapeutic point of view; since a correct understanding of the nature and etiology of the affections dependent upon it, enable us to conceive and apply rational methods of treatment.

The older views upon this subject are not of much

¹ GAMBERINI, Manuale delle Malattie Cutanee, Milano, 1871. MORELLI, Guida pratica e razionale alla cura dei Morbi Cronici della Pelle. Firenze, 1873.

value, and even when we come to the present century we find very little clearly formulated. The English writers, as a rule, favor the idea that it usually depends upon the conditions which give rise to gout. SCHÖNLEIN held that it, or at least one of its manifestations, (psoriasis) was due to *uroplania* (an excess of certain urinary ingredients in the blood). This view HEBRA expressly condemns. HARDY attributes the diathesis to a peculiar vice of the constitution, of the nature of which he is ignorant. BAZIN so far as his arthritides are concerned, to the same general blood conditions which predispose to inflammation of the joints, both rheumatic and gouty. GIGOT-SUARD to uric, sometimes to oxalic acid. It will be seen then, that all the decided opinions which have been expressed, concerning the nature of the diathesis by those who believe in its existence, are one in idea, if not in words, and imply the existence of some *materies peccans* as the efficient cause of its manifestations. The views above stated are in the main based upon clinical observation, with the exception of GIGOT-SUARD's, which derives additional weight from the results of experimental investigation (detection of uric acid in the scales and secretions in these affections, and the induction of similar cutaneous lesions, by the ingestion of uric and oxalic acids);¹ my own view derived from observation, study and experiment,² harmonizes with those mentioned. It may therefore be formally stated, that the affections pertaining to this diathesis are, in all probability, due to the accumulation in the blood of an excess of certain

¹ Op. cit. and L'Uricémie, Paris, 1875.

² In the blood of two out of three psoriatic patients I found oxalic acid, by dialysing the serum. A dilute solution of chloride of calcium was placed in the outer vessel and the result was a crop of octohedra, dumbbells and "spherites" of oxalate of lime.

excrementitious substances, and presumably those which are also efficient in the causation of gout and rheumatism, with perhaps the addition of a few others whose relations to morbid conditions have not as yet received much attention. Although it is far from being susceptible of demonstrative proof, it is more or less probable that the following are the noxious agents: namely, uric acid, lactic acid, oxalic acid, creatin, creatinin and possibly others. The first, fourth and fifth of these are always derived from pre-existing albuminoid substances; the other two, sometimes from albuminoids, and sometimes from substances belonging to the amylaceous and saccharine groups, and all of them represent either steps or side-products of the processes which bring about the metamorphosis of food into tissue, and that again into substances ready for excretion. Our present knowledge of physiological chemistry will not enable us to trace the exact processes and successive steps which lead to the formation of these bodies, but I think it will warrant the assertion that the general process is one of oxidation; in other words that albuminoids (*e. g.* roast beef) entering the body as food, finally leave it as urea, mainly through the instrumentality of oxidation; and if the oxidation of the received albuminoids is incomplete, we have a diminished proportion of urea, and an increased proportion of uric acid, etc. This condition may be conveniently termed, after BENCE JONES,¹ one of *suboxidation*.

This incomplete oxidization appears to be, to a certain but limited extent, a normal condition, and suboxidized products are found in very small proportions in healthy blood, and ready for removal by the kidneys; and it is only

¹ Lectures on some of the applications of chemistry and mechanics to pathology and therapeutics, London, 1867.

when they accumulate unduly that they prove harmful. Some of these bodies are themselves, or form in the blood, compounds which are less soluble than urea, and are not so readily excreted, and hence tend to accumulate. This accumulation occurs whenever renal action is deficient, although the production of the uric acid, etc., may be in normal quantity; or, on the other hand, over-accumulation may occur from over-production, even when the kidneys are removing from the system the usual proportion of these excreta.

In the former case the kidneys are at fault, and the difficulty arises from either organic or functional disease of these organs, usually the latter. It is probable, however, that the over-accumulation is more frequently due to over-production than to deficient excretion. When this is the case, it arises from one of two causes; first, deficient oxidation of a normal supply of ingested albuminoids, or, second, oxidation being normally active, it is still incapable of fully meeting the requirements of an occasional or habitual over-supply of peptones, and hence a quantity of only partially oxidized, and very insoluble products are left in the circulating fluid to be with difficulty excreted. This duty the kidneys will perform up to a certain point, and for a certain length of time; but at last failing to be completely removed, they seek other channels of exit, chiefly the bowels, but in part also the skin.¹ The bowels, being accustomed to the office of depuration, do not complain when any slight extra demand is made upon them, but the skin, less accustomed to the performance of this function, ex-

¹ GIGOT-SUARD's experiments (*q. v.*), seem to prove this. G. BIRD (Urinary deposits, etc.), has observed eczematous eruptions "frosted" with crystals of urate of soda, and I myself have obtained uric acid from the sweat of rheumatic patients. Lactic acid has been found in it by others.

hibits its impatience by *pruritus*, and its rebellion by *eruption*.

If the supply of ingesta is normally and properly adapted to the body's needs, but oxidation is imperfect, we are compelled to seek deeper for a cause. It is to be found, either in a deficient supply of oxygen in the blood, or, if the supply be hygienically sufficient, to a defective utilization of it.

This leads us to inquire how and where the general processes of oxidation are carried on in the body. Without stating the many theories which have been advanced in explanation of this process, I will simply offer the one which seems to me to have the greater probabilities in its favor, to wit, the one recently urged with so much force by MURCHISON.¹ This writer believes that the liver is the principal seat of the oxidizing processes, and that deficient functional activity of this organ is the *fons et origo* of most of the troubles arising from suboxidation. I have the more readily accepted the view of MURCHISON, as deductions from a different set of data had previously led me to suspect the liver of being intimately connected with the production of the rheumatic diathesis. It is also probable that a certain amount of oxidation occurs in the tissues, and even in the blood itself.

Let us now return with the argument, and in the light of this theory trace a pound of beef from the mouth to the urinal. Entering the stomach it is acted upon by the gastric juice, and changed into albuminose or peptones.² These are received by endosmosis into the portal capillaries,

¹ On functional derangements of the Liver, London, 1874.

² I am simply considering the nitrogenous principles of the beef, not the fats, salts, etc.

and are conveyed to the liver; here they wholly or in part undergo oxidation, and are conveyed thence by the hepatic vein to the v. cava, to the right heart, through the lungs to the left heart, and from it to the general circulation; through the medium of which they are distributed to the tissues. Here, by further oxidation, perhaps, they become tissue, remain as such for a time, until by still further oxidation, they are released from their morphological condition and re-enter the circulation, perhaps as urea, perhaps only as substances capable, by still further oxidation, of becoming urea, and ready for removal by the kidneys. If now, these normal processes be anywhere obstructed, we have in the circulation the very insoluble products of deficient oxidation, which, unable to escape entirely by the kidneys, seek a vicarious exit, and in part by the skin, and in so doing, give rise to the cutaneous troubles we are considering.

What causes the tendency to deficient oxidation by the liver and other organs concerned? This is a question which we cannot definitely answer. Excluding cases characterized by a deficiency of red corpuscles (anæmia, chlorosis, etc.), in which the proximate cause is very evident, we come to others and by far the majority, concerning which we only know, that sometimes the difficulty appears to be hereditary, and at other times acquired, and that in either case it is always difficult, and sometimes impossible to remedy; and that our efforts must be confined to controlling its results rather than eradicating their cause.

There is, however, another important change in the constitution of the blood, and one which results directly from this over-accumulation of suboxidized products. Uric, acids, combining with the free alkalies or

alkaline carbonates existing in the serum reduce its alkalinity, that is, render it subalkaline. Now it is well known that processes of oxidation, whether within or without the body, are more readily accomplished in the presence, than in the absence of an alkali. In other words, alkalies assist oxidation, and their diminished proportion in the blood serum and the tissues, greatly retards this normal process.¹ The importance of this fact, from a therapeutical point of view, will be immediately perceived.

This diathesis of suboxidation does not manifest its effects upon the skin alone, but also upon the mucous membranes and the joints, and in all probability underlies certain chronic organic lesions of the viscera. These, however, do not immediately concern us, and hence will not be specially referred to.

The third question which we are called upon to determine in connection with this diathesis, is the propriety of considering eczema, psoriasis and pityriasis among its dependents.

If these affections do depend upon this, or any other diathesis or common constitutional condition, we should expect them to exhibit certain general characteristics indicating a mutual relationship. This they do, and the principal features which they possess in common, and which serve to point to this relationship are the following:

They are not contagious.

They are frequently general, not, however, by simultaneous invasion of the surface, but by spreading from different foci.

¹ BENCE JONES lays special stress upon this. A familiar example is the oxidation of sugar in FEHLING'S reaction, which will not occur except in the presence of an excess of alkali.

They are frequently symmetrical.

They are usually chronic.

Their natural duration is indefinite.

They are obstinate and do not readily yield to treatment.

They are frequently observed in different members of the same family.

They are frequently observed in different forms, in different generations of a family.

Two or more forms may be present at the same time, or may appear successively.

They do not always preserve their individuality, but sometimes merge one into the other.

Relapses are frequent.

They sometimes alternate with affections of other organs, especially of the pulmonary and gastric mucous membranes, and of the joints.

They itch.

The lesions are always superficial.

They never leave cicatrices.

They are more or less amenable to certain definite methods of treatment, which have little if any effect upon other cutaneous affections.

These many common features, together with the results of rational treatment, based upon indications deduced from the supposed nature of the affections, tend, with increasing experience to confirm, rather than weaken the views which I have now for some years held concerning this diathesis, and the propriety of classing these affections among its manifestations.

TREATMENT.—Having now considered the nature of the rheumatic diathesis, it remains to be seen whether we have any means at our command by which it may be counter-

acted, or its effects in any way modified. The measures which may be adopted for this purpose come under two heads, namely, rational and empirical. The rational treatment will be best understood by taking a retrospective glance at the morbid conditions present and their cause.

In the first place we have the blood surcharged with insufficiently oxidized excrementitious principles, less soluble than urea, the substance into which they would be changed if normal action were taking place.

Second, the blood is subalkaline.

Third, the accumulation in the blood of these excreta is due either to deficient action of the kidneys, or,

Fourth, the kidneys acting normally, these substances are produced in excess.

Fifth, this excess is due either to over-supply of albuminoid food, the surplus not being thoroughly oxidized, or,

Sixth, the nitrogenous ingesta, not being excessive, there is failure on the part of the oxidizing processes to fully complete these changes.

Seventh, there are strong reasons for believing that the liver is the organ more particularly at fault in this connection.

The two principal indications then, are to depurate the blood, and to promote oxidation, and these we may expect to fulfill, with more or less success, by means at our command.

Depuration of the blood is to be effected by calling into more vigorous action, either the kidneys, bowels or skin. If the trouble is due to the defective renal activity, a point which may be determined by careful estimation of the amount of nitrogen daily discharged in the urea, uric acid, etc., we must treat these organs with some leniency, and

be careful not to urge them too much, since by undue stimulation we may increase the difficulties under which they are laboring, and defeat the very object we have in view, to say nothing of the risk of doing more serious damage. We will be obliged, therefore, to depend upon the skin and bowels for the fulfillment of the first indication. The functional activity of the skin is increased by exercise, bathing and warmth; and is most rapidly and vigorously influenced by the hot-hair or Turkish bath. This latter agent in the absence of extensive eruption is almost always of service, and when properly managed is not liable to be followed by injurious after effects; it may therefore be applied frequently, even daily, with the happiest results.

If the bowels are to be stimulated, we may employ various cathartics, the most useful in this connection, perhaps, being the ordinary senna and salts, given in sufficient doses to produce one or two loose evacuations daily. HARDY praises very highly an infusion of wild pansy (*viola tricolor*), combined with senna, in about the following proportions:

R

Violæ tricoloris,	℥j
Sennæ,	℥ss
Aq. bullientis,	℥ij

M. and filter when cold.

One-quarter to one-half of this quantity to be taken daily, and the amount to be diminished gradually as the necessity for its employment lessens. HARDY states that he has given this purgative for two or three months at a time without ill effect.

In the place of these remedies, we may employ some of the natural mineral waters, as those of *Seidlitz*, containing sulphate of magnesia largely, without chlorides, or

Pullna, characterized by its richness in sulphates of magnesia and soda together with chlorides, or, of *Friedrichshall*, containing both soda and magnesia but less abundantly than *Pullna*. The native waters which seem to approach most nearly in chemical composition to those above noted, are the *Estill* and *Crab Orchard* springs of Kentucky.¹

This active purgation, however, I believe is rarely required, the condition necessitating it (defective renal action), being the exception and not the rule, as numerous quantitative analyses have indicated a normal excretion of nitrogen.²

If the kidneys are perfectly healthy we may leave the bowels entirely alone, and call upon the former to perform most of the depurating work. This is effected by diuretics, and the ones specially serviceable in this connection are vinum colchici, infus. digitalis, vinum caffèæ viridis,³ balsam of copaiva, propylamine, carbonate of lithia and Vichy. These remedies one and all, appear to exert a marked influence upon the urine, notably increasing the amount of solids daily excreted in this fluid. They are, moreover, among our chief reliances in gouty and rheumatic

¹ We know so little concerning the native mineral waters that it is difficult to speak confidently as to their effects. Many of them, especially those of this state (New York), contain a large proportion of lime (sulph. and carb.), which does not appear to me to be a desirable ingredient, except, perhaps, in certain special conditions not connected with skin diseases.

² This statement is chiefly based upon urea determinations. The quantitative analysis of uric acid being tedious and often unsatisfactory has not been as frequently employed.

³ I first learned the value of this preparation in GIGOT-SUARD (op. cit.), and have it prepared as follows: One pound of ground unburned coffee is added to a quart of good sherry, and left to digest for two weeks. The mixture is then filtered through flannel, and the residue subjected to pressure; and enough fresh wine is added to make a quart. Dose, \mathfrak{zj} - \mathfrak{zj} per diem. This wine is prepared for me by Mr. B. W. DYER, No. 460 4th Ave.

conditions generally. The carbonate of lithia and Vichy beside being diuretic, tend in addition to restore the normal degree of alkalinity to the blood, and, by their presence as alkalies, to assist oxidation. These different diuretics may be used singly or combined, and for a considerable period. Lithia and Vichy, however, and alkalies generally, if too long employed tend to impoverish the blood by diminishing the number of red corpuscles. To obviate this, the use of the benzoate of lithia combined with iron, has been suggested. A better plan, however, if we anticipate a prolonged use of alkalies and other diuretics, is to intermit their employment for one or two weeks out of each month, giving iron if necessary in the intervals.¹

Having put in force the measures necessary for the depuration of the blood, and the re-establishment of its normal alkalinity, attention must be directed to the question of oxidation.

If the conditions present be simply due to incomplete oxidation of an excessive amount of albumenized ingesta, the course is very clear. It is only necessary to diminish the proportion of this kind of diet. In other words, cut off the meat to a greater or less extent, and substitute for it a larger quantity of bread, vegetables and fat. Some of these patients are exceedingly fond of meat, and eat it in large quantities, and are sometimes inclined to rebel against restriction of their diet. The quantity of meat eaten by many persons is greatly in excess of the real bodily needs, and this excess being of no service, is pretty apt to do harm, and soon brings the patient in contact with his physician. In these cases then, our principal effort should

¹ It must be remembered that we are dealing with chronic conditions, and that treatment to be effectual must be continued for a long time.

be to induce the patient to modify his diet in the way suggested, and even if he is a little rebellious at first, it is surprising how soon he becomes reconciled to the changed conditions, and frequently loath to return to his former habits.

If, on the other hand, but a moderate quantity of nitrogenous food is ingested, and even this is incompletely oxidized, it will be necessary to institute measures specially designed to increase oxidation. The red corpuscles being the vehicles by which the inhaled oxygen is distributed to the different parts of the body, it is of course of the first importance that they should be present in normal quantities. Any notable deficiency in this respect is easily ascertained, and may usually be remedied to a certain extent, by the use of preparations of iron. This being accomplished, we must endeavor to insure a full supply of oxygen by exercise in the open air, good bedroom ventilation and the like. In addition, we may attempt to furnish oxygen directly to the blood, by inhalations of the pure gas, or better perhaps, by inhalations of oxygen, a small portion of which has been rendered more active by ozonation. Further, we may employ certain medicines which contain oxygen largely, and are believed to be capable of giving it up to the blood, as for instance the chlorate of potassa. The alkalies already mentioned, which by their presence assist oxidation, are appropriate adjuvants.

Finally, if the liver be torpid, that is, functionally inactive, we may have recourse to the occasional, and in some cases frequent use of certain drugs which have the reputation of being hepatic stimulants, as mercury, podophyllin, etc.

The above outline of treatment is certainly the one which the conditions supposed to exist would naturally

suggest. I should hesitate, however, to offer it, even with personal experience in its favor, were it not that there is abundant corroborative testimony from other sources in favor of each and every one of the remedies mentioned. The value of cathartics, of diuretics, of alkalies, of chalybeates and of hepatics, as isolated remedies in the affections embraced in this diathesis, is recognized by almost every modern writer, and their employment counseled under various circumstances. Heretofore their use has mainly been empirical, and not founded upon preconceived views as to the special indications which they fulfilled. Their acknowledged clinical value, however, is strong presumptive evidence of the, at least approximate, correctness of the theoretical views that have been expressed, and should induce us to seek further for remedies still better adapted to fulfill the indicated requirements.

It is not, of course, expected that in any given case, all of the drugs mentioned will be required, but the happiest results are to be expected from their judicious selection, combination and alternation.

The treatment which I have here advocated for the affections belonging to this group, is intended to replace the method which until recently has received almost universal adhesion. I allude to the treatment by arsenic.

Arsenic has been, and is still by many, perhaps by most, regarded as the sheet-anchor in the management of these affections. Its reputation is based upon the fact, that it has the most undoubted control over many of the manifestations of this diathesis, a control evidenced by its prompt removal, in many cases, of the visible lesions and other appreciable symptoms. But does it in addition to this exert any influence upon the constitutional conditions which un

derlie them ? Does it in the slightest degree tend to prevent their relapse ? I have never been able to perceive that it did. In my earlier experiences I used arsenic largely, and obtained the effects usually ascribed to it, gradually I used it less frequently, and at present employ it but seldom, and have no hesitation in saying that the arsenical treatment of these affections though often more prompt, is on the whole less satisfactory than the method which I have here detailed.

The foregoing refers simply to the internal treatment of the rheumatic affections, but it must not be supposed that dependence is to be placed upon it alone. On the contrary, local treatment is of service in almost every case, and will be considered in connection with the special affections themselves.

CHAPTER XI.

ECZEMA.

This is the most frequent, one of the most obstinate, and hence the most important of all cutaneous affections. Its frequency is exhibited by the statistics of WILSON¹ and McCALL ANDERSON² which give 5,879 cases of Eczema in a total of 21,000 eruptions of all kinds, nearly 28 per cent. Its obstinacy is proverbial, and its importance necessitates a most thorough and careful consideration of the various phenomena which it presents. It may be defined as a non-contagious affection of the skin, of multiple lesion, and of constitutional origin.

As all cases of Eczema are not exactly alike, either in their appearance or in their course, we are of necessity obliged to acknowledge several varieties. An eczema may commence abruptly, and with evidence of intense inflammation, or gradually, and without much local reaction, that is, it may be acute or subacute. It may run its course in a few weeks, or it may persist for months or years. In other words, it may be acute or chronic. Its appearance varies with the above characters, with the special lesions manifested, and with the location of the eruption. This

¹ Journal of Cutaneous Medicine, Vol. III. p. 284.

² On the Treatment of Diseases of the Skin, London, 1872.

gives us varieties, based upon degree, upon course, upon lesion and upon location. We will commence with the acute and afterwards describe the chronic forms.

An Acute Eczema, if the eruption is at all extensive, may be preceded by febrile action, usually mild, rarely severe. This, if present, is succeeded by the appearance of a reddened patch of varying size, that is, capillary congestion, or erythema, if you choose so to call it. In a day or two, or even in a few hours, the special lesions of eczema appear. These are either vesicles, pustules, papules, fissures, or what I shall term primary exfoliation. They are produced by an exudation, which, having left the vessels, seeks an exit upon the surface. This exudation may be serous, purulent or extremely plastic. In the last case it is retained within the tissues of the skin and gives rise to papules, but if serous or purulent, it traverses the rete Malpighii, and appears beneath the stratum corneum. Having arrived here, and urged outward by continued exudation behind, it either lifts up little portions of the stratum corneum, forming vesicles or pustules, or forces its way through this layer by means of clefts or fissures, or lastly, and I believe most frequently, simply loosens the attachments of the horny cells and washes them away in minute and almost imperceptible scales. Formerly the only admitted early lesion of eczema was the vesicular; the pustular form being considered a distinct disease, received the name of Impetigo, and the papular, also believed to be distinct, was called Lichen.¹

The *vesicles* of eczema are usually quite small,² rarely

¹ The so-called Lichen *planus* (WILSON) and *L. ruber* and *scrofulosorum* (HEBRA) are different affections and will receive attention later.

² An exception to this is noted later, (eczema of the hands.)

larger than pin-heads, and closely aggregated. They rarely exist unbroken more than twenty-four or forty-eight hours, at the end of which time, either from friction of the clothes, if the eruption be upon a covered spot, or spontaneously, if it is in an exposed region, the epidermis yields to the pressure of the exuded fluid, and ruptures, giving free exit to the effusion. The exudation is colorless and transparent, and, unless absorbed by the clothing, loses a portion of its water by evaporation and dries into yellowish or amber crusts, varying in thickness with the amount of exudation. If the fluid has been absorbed by linen or cotton under-garments, they are found to be spotted, though not discolored, and stiffened by its coagulation in their meshes. This stiffening of the linen is a peculiar and marked characteristic of the eczematous discharge. If the crusts be removed we find a moist and reddened surface, from which fresh exudation may almost be seen to ooze. The surface at first sight seems to be ulcerated, but upon more careful examination we simply find a condition of superficial erosion, due to the shedding of the stratum corneum. The redness is not always uniform, but frequently punctate, and examination with a lens of high power will show the points of most intense congestion to correspond to the situation of the cutaneous papillæ, and not to the parts immediately surrounding the orifices of the sweat ducts, as stated by many writers. The exudation is not pure serum, but contains a little fibrin, together with leucocytes in small quantity. This reddened and oozing surface is again soon covered with exudation, which drying forms fresh crusts. These remain attached until removed mechanically, or until they have reached such a thickness that they fall by their own weight through lack of cohesion. The period of erythema

and vesiculation is usually called the first stage, while that of exudation and crusting may be termed the second. The first stage lasts but a day or two, but the duration of the second is indefinite. Two or more patches may occur simultaneously, or may be succeeded by others at any subsequent period. The eruption is rarely confined to the exact area at first involved, but exhibits a tendency to spread, by the appearance of vesicles or some of the other lesions upon the periphery, or in the immediate neighborhood of the original patch. The advancing border is not, as a rule, characterized by the appearance of fresh vesicles or pustules, as claimed by most writers, but rather by an exfoliation, or melting away as it were, of the stratum corneum. A portion of the eruption may undergo changes tending towards recovery, while neighboring parts may become newly involved.

The second stage, that of exudation and crusting, may be, as we have stated, of indefinite duration; but after a time, the exudation gradually lessens and the crusts become thinner, until at last the effusion entirely ceases, the surface becomes quite dry, and in the place of the crusty coating we find a covering composed of fine white scales. The surface underneath these scales is dry, often shining with a lustre as if varnished, and exhibits the natural lines of the skin with unusual distinctness, in fact to an exaggerated degree. This may be termed the third stage. The white scales upon its surface are composed of aggregations of epidermic cells which, not possessing normal viability, are speedily exfoliated. This early desquamation is due either to some intrinsic imperfection in the cells themselves, or to the fact that the underlying surface is not yet in perfectly healthy condition and capable of nourishing them

properly. If the patch is tending toward recovery, the surface gradually assumes a more normal aspect, the white scales become finer and more adherent, until at last, the corium, rete and stratum corneum resume their usual condition, and no trace of the eruption remains. The skin returns to an absolutely normal state, without the appearance of mark or scar to indicate the site of the previous eruption.¹

The *Pustular* form of eczema, or *Impetigo*² of many writers, commences as did the vesicular, with erythema. This is followed by the early appearance of minute, closely aggregated pustules, which soon break and release their contents. This covers the surface, and increased by continued exudation, is either absorbed by the clothing, or losing its watery parts by evaporation, dries into opaque greenish crusts of varying thickness. Upon the removal of these crusts we find the same congested surface as in the vesicular form. The exuding fluid differs somewhat in appearance from that present in the vesicular variety; instead of being clear and transparent, it is more or less opaque and creamy, and contains an abundance of leucocytes. This purulent exudation and crusting may, as in the former instance, continue indefinitely, but in time gradually diminish, and the subsequent changes are identical with those which occur in the vesicular form. Between the clearly serous and the frankly purulent exudations, there may occur a variety of intermediate conditions, differing from each other simply in the proportion of leucocytes contained

¹ An exception to this sometimes occurs in connection with long-standing eczemas of the lower extremities, especially in elderly persons. In these cases pigment stains may mark the seat of an old eruption.

² The *Impetigo Contagiosa* of Fox is a distinct and special disease and will be considered hereafter.

in the effusion. These cases have received the unnecessary appellations of *Impetigo eczematodes* and *Eczema impetiginodes*.¹ It is almost needless to say that in their later stages they cannot be distinguished from the previously described varieties.

The *Papular* form of acute eczema is not by any means so common as the vesicular, pustular and vesiculo-pustular varieties. It is recognized by the appearance upon a sometimes reddened, sometimes scarcely altered, surface of small red papules commonly discrete, sometimes confluent, and without, at first, much if any exudation. By rubbing and scratching, however, (the subjective sensations invite attention to the part, and more or less scratching is the usual result), the papules become torn and a slight quantity of serous exudation escapes. This is usually quite limited in amount and dries in thin crusts, which cover but rarely conceal the primitive lesion. After a varying period the tendency to papulation lessens, and with it the exudation, and the last stage of the eruption is indistinguishable from that of the other varieties.

The *Fissured* form, first described by the French under the name of *Eczema fendillé*, latinized by ANDERSON² into *E. Rimosum*, is characterized by the appearance of the erythematous blush, followed by little fissures or clefts in the epidermis, from which the serous or sero-purulent fluid issues. This is rarely abundant, but sometimes exists in sufficient quantity to form thin crusts, upon the removal of which the clefts become evident. After a time the secre-

¹ In many books, even of the present day, we find these conditions spoken of as if they represented a mingling of, or cross between two distinct diseases, a most unphilosophical idea, and when extended, as it frequently is, to other affections, is productive of much serious error.

² A Practical Treatise upon Eczema, London, 1874.

tion diminishes, then ceases, the fissures close, and the surface becomes dry, shiny and scaly, and similar in aspect to that presented by the late stages of the other varieties. Finally there is perfect resumption of the normal condition.

The last of the five initial lesions ascribed to eczema, the one which I have termed *Primitive exfoliation*, to distinguish it from the late or desquamative stage proper, is, I believe, the most frequent condition present at the outset of an acute eczema. The mechanism of its production is probably as follows. Succeeding the primary congestion of the part, we have exudation from the vessels; the exudation being too thin or otherwise unadapted to the formation of papules, penetrates the rete and reaches the under surface of the stratum corneum. Here, instead of issuing through clefts, or raising the s. corneum in vesicles or pustules, it simply floats off from the surface the previously-loosened cells of this layer. This explanation is not offered as the result of direct observation, but one arrived at by exclusion, as plenty of cases of eczema occur in which none of the previously described lesions are present, and I cannot account for the appearances presented in any other way.¹ The exudation upon the surface dries into crusts and the eruption passes through the stages already described.

Any of the forms mentioned may exist by itself, but

¹ Frequent observation of the borders of advancing eczemas, with the compound microscope, amplifying from thirty to fifty diameters, have often failed to detect either vesicles, pustules, papules or fissures, but simply a condition of advancing superficial erosion. Two other writers appear to have recognized this form of commencing eczema, MILTON (Path. and Treat. of Dis. of the Skin, p. 83, London, 1872), says the "skin becomes red, swelled, glazed and stiff. This is followed by desquamation of the cuticle and formation of moist scales or even crusts." CHARPY (Ann. de Derm. et de Syph. III. p. 99), says, "l'épithélium infiltré se desquame et tombe: l'aboutissant de la lésion, c'est l'atrophie de l'épiderme."

more frequently two or more of them are present in different parts of the eruption at the same time, giving rise to a variety of aspects which must be seen to be accurately appreciated.

Acute eczemas vary somewhat in appearance and behavior according to their location, and the most important and striking of these variations merit notice. Those of the scalp and other hairy parts, of the face, of the genitals, and of the hands and feet present the most marked peculiarities.

Eczema of the Scalp. This is a very common affection in childhood, and usually presents the vesicular, pustular or exfoliative, rarely the papular, and never, I believe, the fissured forms. The exudation glues the hairs, matting them together in thick masses, and exhibits an accumulation of crusts never seen in any other part. This mass of hair, crusts, and increasing exudation, affords a congenial home for any stray pediculi that may happen to come in contact with it. Having once effected a lodgment, if undisturbed, they cover the hairs with their ova, and soon breed fresh crops which continue to multiply with great rapidity, until, in some neglected cases, the mingled hair, crusts, exudation, and lice, constitute a fetid and disgusting mass of vitalized filth.¹ In younger children, however, in whom the hairs are too sparse to permit of much matting, or encouragement to pediculi, we may find other complications. These are abscesses and glandular enlargements. Small subcutaneous abscesses of the scalp are by no means rare in the acute eczemas of young children. They are not of much consequence, however, except as adding to

¹ HEBRA'S description of *Plica Polonica* (op. cit.), should be read in connection with this.

the uncomfortable sensations which the little patients are obliged to endure. Enlargement of the post-cervical glands is also a frequent complication of this form of eczema. This is mentioned to warn the student of its occurrence, and to put him upon his guard against confounding it with the post-cervical adenitis which accompanies the early periods of syphilis. The enlarged glands of eczema and of syphilis, however, can be readily distinguished from each other if attention be paid to the following points of difference. In eczema the enlargement is distinctly inflammatory, a small number of glands only being affected. The increase in size may be considerable, the consistence not very great, and accompanied with some tenderness upon pressure. In syphilis a greater number of glands is involved, they are smaller and harder and rarely painful, and usually complicated with inguinal adenitis.

If eczema occupies the region of the *beard*, the inflammation commonly extends to the hair follicles, and the integument between the hairs may become more or less generally infiltrated with still more profound localized infiltrations, forming papules and tubercles. Intermingled with these are numerous pustules each perforated by a hair. Upon extracting the hair, its root is found swollen, and often covered with a thick white membrane consisting of the inner and outer root-sheaths. This variety usually becomes chronic, and constitutes one of the varieties of so-called *Mentagra*, *Sycosis* or *Barber's-itch*.

Eczema of the *axilla* is also sometimes accompanied with suppuration about the roots of the hairs, and enlargements of the glands, and even with small abscesses, but without the infiltration and thickening observed upon the face. Upon the *mons veneris* the hair follicles become involved but without much infiltration, etc.

Eczema of the *genitals* involves the penis, scrotum, perinæum and vulva. One of the main peculiarities of this form is its tendency to remain moist, even in the absence of much exudation and crusting, and when it becomes dry is apt, upon the slightest provocation, to resume its former condition. We may here mention an affection of the genito-crural region, which is usually called *eczema marginatum*. This, however, is not an eczema proper, but a variety of Trichophytosis (*q. v.*), and will be discussed in its proper place.

Eczema of the *hands* and *feet*. When the affection attacks the back of the hand or dorsum of the foot, it presents no special peculiarities, except that these are favorite seats for the fissured form, but when it occurs upon the palmar and plantar surfaces, it is different. In these regions it usually assumes the vesicular, pustular or fissured forms, and the peculiarities which characterize it are due to the great thickness and strength of the epidermis covering these parts. The vesicles or pustules, though small at first, soon enlarge by increase in the size of the original vesicles, or by union of two or more contiguous ones, the result being bullæ of considerable size. The fluid, even if clear at first, usually becomes turbid after a few days. The stratum corneum being thick, the vesicles often fail to rupture, but instead, the fluid is absorbed and the vesicle flattens down, and the horny covering again comes in contact with the skin. It does not, however, become attached, but is exfoliated in a day or two, leaving a purplish-red macule which disappears later. If fissures are a prominent feature, as is frequently the case, they are both wider and deeper than when they occur in other parts, and correspond to the natural lines and furrows. The exudation,

rarely profuse, issues from the fissures; the crusting is almost *nil*. The third stage is characterized by a dry polished surface without much scaling, but upon which the lines of the skin appear in the most exaggerated manner.

The tendency of all acute eczemas is to spread, at least somewhat beyond the limits observed during the first few days of the eruption, and if the patches be in the neighborhood of mucous membranes, extension of the morbid action to them is not uncommon. It is characterized by increase in the amount of fluid secreted upon their surface, and increase over the normal quantity of desquamated epithelium.

As all cases of eczema are accompanied with more or less pruritus, "scratch marks" of varying severity are frequently observed in addition to the special lesion.

In all of the forms of acute eczema there is a certain amount of infiltration of the corium, so that the affected patch may appear very slightly elevated above the surface. This, however, is not in general a prominent feature, and rarely reaches the degree attained in the chronic form.

CHRONIC ECZEMA.

This form may commence with acute or with subacute symptoms. In the former case, the eruption having passed through the first and entered the second stage, characterized by exudation and crusting, remains in this condition for weeks or months, presenting many of its acute features throughout; finally it passes to the third stage and recovery takes place. More frequently, however, the eruption passes through the first and second stages with commendable speed, but halts in the third. After the exudation has stopped and crusts cease to form, and we have in their

stead the dry and scaly condition, further progress toward recovery does not take place, but the dryness and scaling persists for months, sometimes for years, and the only interruption of this condition may be occasional relapses, or returns of the eruption to an earlier stage and more acute form. In other words, the patch, before final recovery, may return again and again to a more primitive phase, a circumstance exceedingly annoying to both the patient and physician.

Chronic eczema often appears without having been preceded by the lesions which characterize the first and second stages of acute eczema, but, instead, by a subacute condition, marked by a slightly reddened, slightly elevated, sometimes papulated patch, covered with fine white, not imbricated and not very adherent scales. These patches are usually small and circumscribed, rarely attaining the size frequently met with in the other forms.

The peculiarities impressed upon chronic eczema by the influence of locality must not be overlooked. In adults eczema of the scalp is more apt to exhibit the chronic, and especially the subacute form, than in children. Abscess of scalp never, and post-cervical adenitis rarely occurs. It is, however, frequently accompanied with more or less falling of the hair. This alopecia, however, unless the disease be very extensive, and the third stage unusually prolonged, is but temporary, and upon recovery the hair again grows without much if any apparent diminution. The chronic eczema of this part then, will be characterized by a white scaly surface, covering a smooth and polished skin, usually dry but upon which a little rubbing will frequently provoke a certain amount of moisture. When the eruption creeps down the occiput towards the nape of the neck, we fre-

quently find, just beyond the region of hair, circumscribed patches of eruption composed of small, closely aggregated papules, with more or less thickened skin between them, the whole covered with fine scales. Sometimes, in addition, there are discrete papules of larger size, some almost meriting the name of tubercles.

Chronic eczema of the chin, cheek and upper lips of adult males, is a very intractable affection, and is characterized by an aggravation of the infiltrated condition met with in the acute form. The hairs perforate pustules, come out easily upon extraction, and bring with them their root-sheaths. Occasionally we find lengthened nodules, or infiltrated bands which rise considerably above the more uniformly infiltrated surface. Upon the decline of the disease these bands often fail to undergo complete resolution, but persist for a long time, and assume very much the appearance of cicatricial keloid (*Kelis spuria*). This form of eczema constitutes the majority (at least in this country) of the cases of mentagra.¹ Some writers, *e. g.* HARDY² and MCCALL ANDERSON³ deny the occurrence of the tubercles and infiltration just mentioned in eczematous mentagra, and assert that they are only found in the parasitic affection (*Trichophytosis barbae, q. v.*). This I believe to be a mistake, as I have seen these features in cases which I am confident were not parasitic, and per contra have met with cases of trichophytosis barbae of months' standing in which deep infiltration, etc. were entirely wanting. In these latter cases the microscope enabled the diagnosis to be absolute.

¹ A term which simply means chin-disease, or more accurately chin-seizure.

² Op. cit. p. 67.

³ A practical treatise on Eczema, 3d ed., p. 164, Lond. 1874.

Chronic eczema of the hands and feet may succeed an acute eczema of these parts but is frequently subacute from the beginning. It sometimes commences with the appearance of fissures, which extend through the stratum corneum, and sometimes even through the rete. They are red, often painful, and the epidermis upon their sides is sometimes greatly thickened. The constant motions of the hands, and their employment in different avocations tend to aggravate the lesion. More or less exudation issues from the cracks, but owing to the frequent washings to which these parts are subjected, fails to crust. In other cases, the lesion may consist simply in circumscribed exfoliation of the superficial horny cells, exposing a somewhat reddened surface, upon which little cracks may form accompanied with a moderate discharge. In many cases, especially those of long standing, we find nothing more than a dry and polished surface, with little if any appreciable scaling, and marked only by a somewhat heightened color, and an increased distinctness of the natural lines. These cases look so little like ordinary eczema, that were it not for the anterior history, or concurrent phenomena we might be in doubt as to the diagnosis.

The other varieties of chronic eczema exhibit no special peculiarities other than persistence.

A feature common to all cases of chronic eczema, less marked, however, upon the scalp than elsewhere, is infiltration. This may be a uniform circumscribed thickening of the skin upon which the special lesions repose, or the surface may be rendered rough and uneven by the occurrence of papules and fissures. Sometimes the papillæ of the corium undergo considerable hypertrophy and give the thickened patch a somewhat warty aspect. Occasionally

both the papillæ and the other portions of the derma, more especially in the neighborhood of the ankles, participate in the proliferation of new tissue to an extent which may cause the affection to very greatly resemble Elephantiasis Arabum. This is the *Lichen hypertrophique* of the French.¹

SPURIOUS ECZEMA.—A number of morbid changes, usually depending upon external causes alone, have been assigned to this affection, and described as varieties of eczema. I allude more particularly to certain eruptions succeeding the early lesions of scabies, prurigo, etc., and to the eruptions produced by frictions with croton oil, tartar emetic and other similar irritants. True eczema may occur as secondary to, and complicating scabies, the irritation of which is frequently a sufficient exciting cause to those predisposed to this eruption, but the majority of vesicular, pustular and papular lesions met with in this connection are not eczema, and should not be so called. Undiluted croton oil rubbed into the skin produces characteristic pustules, very closely resembling variola; diluted and applied with less friction, it may simply induce redness, with minute papules or vesico-pustules. To this condition the name of *artificial* eczema has been applied by the Germans, and the microscopic study of the skin of men (HERBRA) and of rabbits (NEUMANN) thus dealt with, is considered by them as a contribution to the histology of eczema.

In persons predisposed to any of the rheumatic eruptions, local irritation of any kind, even the application of a poultice, may invoke a true eczema,² but in the majority of in-

¹ A well-marked instance of this will be found described and pictured in the *Revue Photographique des Hôpitaux*, March, 1869.

² I have a patient upon whom the application of BAUNSCHEIDT's Lebenswecker will almost always have this effect.

stances the application of any of these substances simply produces the eruption peculiar to the irritant employed, and is nowise entitled to the name eczema, unless accompanied with the adjective *spurious*.

We can not close the consideration of the aspects of eczematous eruptions without an allusion to the influences exerted by other diatheses; more particularly the scrofulous and syphilitic. In general, it may be stated that the scrofulous diathesis gives the eruption a somewhat bluer or more livid color than usual, impresses a more suppurative character upon the lesion, diminishes the violence of subjective local symptoms, and impresses upon the lesion a tendency to extreme chronicity. Syphilis does not appear to modify the appearance of acute eczema in any respect, except, possibly, to shorten the duration of the eruption. Two recent cases tend to confirm this opinion. The first case was in my wards at the Charity Hospital, suffering with a late tubercular syphilide. An eczema appeared in the left popliteal region, and ran its course quite rapidly. The second case entered the wards with a hard chancre, indurated inguinal and post-cervical glands, and a labio-crural eczema (not an eczema *marginatum*), of two weeks' standing. The chancre healed, but the eczema persisted, improving, however, under treatment, until, upon the appearance of a general roseola, it disappeared with much greater speed than its previous aspect would have led one to suppose. Never having seen a chronic eczema in a syphilitic patient, I cannot speak of the peculiarities it may present, nor do I know that any such are mentioned by authors. Of course an eczema occurring in a syphilitic subject must be distinguished from the form of vesicular syphilide, to which the name of *syphilitic eczema* has been applied by some.

COMPLICATIONS.—Eczema may exist alone, or may be accompanied by other manifestations of the rheumatic diathesis. The following case, recorded by me when an interne at Bellevue Hospital, is a striking illustration of this association.

CASE II.—THOS. K., aged 56 years, was admitted into B. Hosp., Mar. 10, 1865. Since early childhood has been troubled with white, dry and scaly spots upon his body. They did not trouble him much at first and sometimes disappeared. Sometimes the eruption became moist, discharging freely, but generally it was dry. His mother and three maternal uncles were similarly affected, but none of his brothers or sisters. Says that he has suffered from rheumatism for many years. Upon admission he exhibited pityriasis of the scalp and eye-brows, hair of scalp greatly thinned, but not more so than his age might account for, hair entirely absent from eye-brows. Chest, body and arms covered with eczematous crusts. Upon forearms, several circumscribed, dry, white patches with large scales (psoriasis). Upon palms thick scales interspersed with fissures. Skin everywhere rude and apparently thickened, but upon lower part of the legs, about the ankles and dorsum of feet, thickening of the skin is excessive and papillary (hypertrophic lichen). Fingers semiflexed and ankylosed from rheumatic gout, wrists subluxated from same cause. The inflammatory symptoms about the joints commenced twenty-five years before, and successive attacks resulted in the deformities noticed. He improved somewhat under treatment and was discharged.

This case was an extreme exemplification of the rheumatic diathesis, and one not often met with. It is not very uncommon, however, to find upon the same subject typical examples of two of the rheumides at the same time, and sometimes patches of eruption presenting mixed or hybrid characters, rendering it difficult and sometimes impossible to give the eruption a precise name, that is, to say whether it is an eczema, a psoriasis, or a pityriasis.

A frequent complication of eczema of the leg is the presence of varicose veins and ulcers. The relations be-

tween these lesions appear to be the following: The varicose veins being present, act as a local predisposing cause, and encourage the appearance of an eczema. The pruritus which accompanies it excites scratching, and the slightest wound of the ill-nourished tissues, by the nails or otherwise, may degenerate into an ulcer.

SUBJECTIVE SYMPTOMS.—The subjective symptoms of eczema are both general and local. The early *general* symptoms are those which commonly accompany febrile action, such as malaise, lassitude, loss of appetite, etc., and may precede the outbreak of an extensive and acute eruption. Later general symptoms may be those of debility from prolonged suppuration, loss of sleep, etc. Many cases, however, occur in which there is complete absence of all general phenomena, the patient appearing, except for the eruption, to be in perfect health. *Local* symptoms, at the commencement, consist in a sensation of heat or burning in the part, which may persist until the eruption is fully out, and then gives place to pruritus. The pruritus varies in intensity in different cases and at different times. It may be quite insignificant, and barely attract the attention of the patient; and the slight amount of scratching which it invites may be considered rather a source of gratification or pleasurable diversion, than an inconvenience. On the other hand, the itching may be so severe that constant rubbing, scratching, and even tearing of the skin become a daily and even hourly necessity, sometimes rendering sleep all but impossible, and making life a veritable burden. Between these extremes there may be every grade of intensity.

CHAPTER XII.

ECZEMA (*Continued*).

HISTOLOGY.—The histology of Eczema has not received the attention which it deserves. The varieties of lesion which the affection presents would necessitate a corresponding variety in the microscopical changes; but thus far these have not been thoroughly elucidated, and at the present moment we are obliged to rely upon a few observations made by BIESIADECKI,¹ NEUMANN,² CHARPY³ and others. I extract the three following paragraphs from the American edition of NEUMANN, rejecting for reasons stated elsewhere (p. 157), conclusions drawn from NEUMANN's croton-oil experiments.

BIESIADECKI describes the formation of papules and vesicles as follows: The papillæ of circumscribed portions of the derma are enlarged in breadth and length, by infiltration with cells and serous fluid. The connective-tissue corpuscles of the papillæ are remarkable for their size and richness in fluid, and are also increased in number. Numerous spindle-shaped cells are prolonged into the mucous layer, lying

¹ Sitzungsab. der K. K. Akad., Wien, 1867.

² Op. cit.

³ Annales de Dermatologie et de Syph., t. III. p. 97.

half in the papillæ and half between the deepest cells of the rete Malpighii. (Fig. 32*a''*)

Fig. 32.



Fig. 32.—Eczema papule (BIESIADECKI). *a*, spindle-shaped cells which permeate the mucous layer abundantly; *a'*, with several nuclei; *a''*, the same with one-half yet in the corium; *c*, papilla.

They crowd the cells apart and reach even to the horny layer. Within the mucous layer they often form a dense network, penetrating it in different directions. Within this network lie the somewhat swollen epithelial cells, whose protoplasm appears somewhat granular. This circumscribed infiltration of the papillæ forms the eczematous papule.

If the new formation of cells within the papilla increases, the superficial cells of the mucous layer swell up and rupture, and the horny layer over it is elevated and a vesicle is formed. The spindle-cells are here present in

yet greater abundance, and serve as nutrient canals, and perhaps convey the elements of nutrition to the mucous layer. In acutely developed eczema they are very soon present in great numbers, and form a dense network. With the greater abundance of these cells, there is also a

Fig. 33.

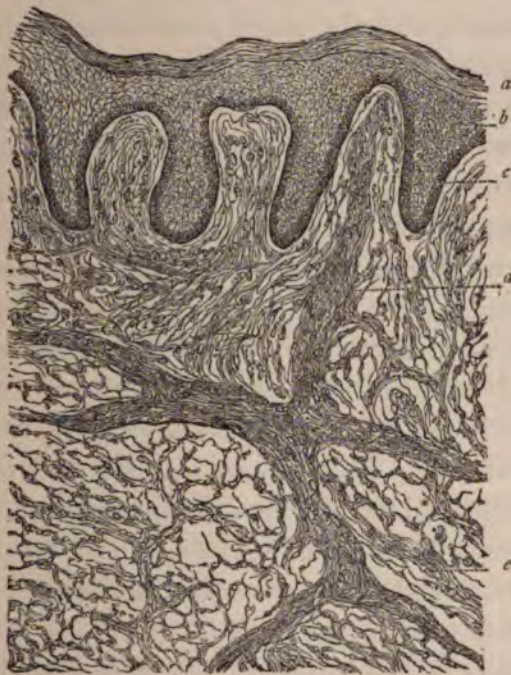


Fig. 33—Section of infiltrated skin from a chronic eczema (NEUMANN). *a*, horny layer; *b*, rete Mal.; *c*, pigmented cells and enlarged papillæ; *d*, hyperplasia around the vessels; *e*, diffuse cell infiltration.

larger quantity of the fluid in the tissue of the papillæ, and this is sometimes so copious as to elevate the horny layer in the form of a bleb. When this layer is removed, the fluid oozes out (moist eczema). We thus see in what manner the exudation formed in the papillæ makes its way through the mucous layer to the surface.

The anatomical changes vary according to the duration of the eczema. The gummy fluid exuded cannot be distinguished, microscopically, from ordinary serum: in acute eczema the follicles, papillary layer, and superficial strata of the corium are swollen, but this swelling subsides again in most cases. If, however, the eczema becomes chronic, the skin is considerably thickened, the lines and furrows become deeper, and the papillæ are enlarged to such an extent that they are visible to the naked eye.

The older the eczema, the larger the papillæ become, the greater is the cell infiltration of the corium, which sometimes extends to its deepest layers (Fig. 33), and even into the panniculus adiposus, so that there is increased cellular development around the capillaries and around the single fat cells.

CHARPY regards eczema as an inflammation whose primary seat is the connective tissue just beneath the papillæ, from which point the irritation is propagated both downward and upward. In the latter case the cells of the rete become distended by fluid exudation, rupture and form small alveoli; these in time coalesce and form vesicles, which later reach the surface. In the papular form there is a certain amount of sclerosis.

TREATMENT.—The treatment of eczema varies with the variety and stage of the eruption, and with the particular pathological conditions present. Hygienic management, internal medication, and external applications are all three of service, and in some instances may each be exclusively relied upon, but in the majority of cases, the best results will be obtained by their judicious combination. The hygienic management involves the regulation of exercise in the open air, bedroom ventilation, bathing and diet. The

first two of these are of importance insomuch as the necessary oxidizing processes cannot be satisfactorily performed if the supply of oxygen itself be curtailed ; exercise further tends to promote perspiration, which, as a rule, is more or less deficient in those subject to eczematous affections. Bathing, and dry frictions after the bath, are to be recommended for the purpose of keeping the skin clean, its pores, sudoriferous and sebaceous, open, and of equalizing the cutaneous circulation. The regulation of the diet is of the first importance. Vegetable food, including leguminous, amylaceous and oleaginous principles and fruits, should supplant, as much as possible, the extremely nitrogenized diet to which, in all probability, the patient has been accustomed. A breakfast of crushed wheat or oat-meal and milk, with bread, potatoes and perhaps an egg or fish ; a lunch of similar character, and a dinner chiefly leguminous, with, at the utmost, a single slice of meat, followed by a rice, sago, tapioca or Indian pudding, will furnish sufficient nourishment for the most active physical laborer, and more than enough for the proper sustenance of those who lead more sedentary lives. Where good water can be obtained, the products of fermentation and distillation, except in cases of debility, are to be avoided. I am not, however, aware that tea and coffee in moderation are prejudicial, and to those accustomed to it, a little Bordeaux wine may be allowed. The above is applicable to adults and to children above two years of age. With infants, of course, it is different. An exclusive amylaceous and leguminous diet would be out of the question, but still the diet of eczematous infants may be amended with benefit. As a rule the milk of their mothers or nurses will be found deficient in butter.¹

¹ In support of this, I can offer but ten experimental determinations. In seven the butter was less than the normal proportions as given by ROBIN (*Les Humeurs*).

This would naturally suggest a change of nurse or the addition to her milk of an oleaginous substance. Cod-liver oil is one of the most convenient substitutes for this purpose at our command, and one to which, as a rule, infants and young children do not object. It may be given in appropriate doses mingled with the nurse's milk. Whatever may be the reason, there is no doubt as to the very great efficacy of cod-liver oil in the eczemas of children. Proper diet undoubtedly exerts a great influence upon the course of this affection, not only in mitigating its severity and shortening its course, but in deferring and preventing relapses.

Internal Treatment.—The internal treatment may be rational or empirical. The *rational* treatment is that which has already been suggested in the previous chapter, and involves the employment of cathartics, diuretics, alkalies, oxidants and hepatic stimulants, either one or all as the peculiar circumstances surrounding each case may seem to indicate. It is a great error to suppose that eczema can be successfully managed by any form of routine treatment. Each case must be studied by itself, and the remedies selected must be the ones which seem best adapted to fulfill the special indications present, remembering that it is not the skin alone, but also the bearer of it, that needs our most assiduous attentions. The principles which are to guide us in the selection of remedies having already been discussed, need not be repeated.

The *empirical* treatment is pretty much confined to the

The process employed, was to submit a known quantity of the milk to the water-bath until it ceased to lose weight. The residue was extracted with ether, or sulphide of carbon, filtered, and the filtrate evaporated, the last residue represented the butter. In four instances the result was controlled and verified by VOGEL's method (*Eine neue milchprobe*, Erl., 1862.)

use of a single remedy, namely, arsenic. This drug has for years been regarded as almost a specific in this class of affections, and the prevalent opinion seems to be, that if a sufficient quantity of arsenic can be used the eruption will ultimately yield. The facts are, that in a certain proportion of cases it does harm, in others it seems to be without influence either for good or for evil, while in still others, and I think the minority, its employment is followed by decided and often brilliant results. As a rule, if the eruption be in an acute condition accompanied with much local inflammation, arsenic, instead of relieving will aggravate the symptoms; but in subacute and chronic conditions, it is frequently of the greatest service in bringing about a rapid disappearance of the eruption. It is in the dry and scaly stages, occupying extensive tracts of surface, that its best effects are seen. There is, however, a difference of opinion, among those who use arsenic much, as to the best way of employing it. Some prefer to give it in small doses for a considerable period of time, while others give larger doses without continuing it so long. In general, it may be said to act with a promptness proportionate to the size of the dose. Its best effects seem to occur just at the verge of tolerance, just before it begins to manifest poisonous symptoms. This limit of tolerance is manifested by irritation of the conjunctivæ, swelling of the eye-lids, perhaps swelling of the feet and pain in the stomach, with or without nausea. The preparation of arsenic commonly employed in this country is Fowler's Sol. (*Liq. Potassæ Arsenitis*), given in doses of from three to ten drops three times a day. It should be well diluted with water and taken upon a full stomach. The dose may be gradually increased until the limit of tolerance is reached, and then

kept the same, or diminished or even suspended if necessary, resuming it again, after a short interval, if the eruptions have not already disappeared. It is advisable, in most cases, to combine with the arsenic a certain proportion of iron, with the addition, perhaps, of a bitter tonic. Fowler's solution with wine of iron, or arsenite of iron or of quinine may be employed. I am not aware that the other preparations of arsenic (*Pierson's* or *Donovan's* sol., *Asiatic* pills, etc.), possess any advantage over the foregoing. The arsenic may be continued even after the disappearance of the lesions, if the physician have confidence in the power of this drug to alter the constitution in such a way as to break up the tendency to eruption and prevent relapses. If it succeed in removing the eczema from the surface, it may be expected to prevent its reappearance as long as its use is continued, but it has never appeared to me to offer any guarantee against an early return of the eruption after the daily dose has been stopped, and where the causes which first induced the eczema are still in operation.

External Treatment.—Whichever form of internal treatment be selected, we must not endeavor to rely upon it alone, as experience has taught us the great value of many external applications. In considering the external treatment, however, we must bear in mind the fact that the eruption possesses several stages, each characterized by its own peculiar lesions, and that the external application must be selected with reference to the particular conditions present. They are usually one or more of the following:

First, erythema, with slight œdema, and the presence of vesicles or other initial lesion.

Second, exudation and crusting.

Third, dryness and scaling.

Fourth, more or less infiltration.

For the first day or two, while the symptoms of inflammation are active, with increased local temperature, and before the tension of the parts has been relieved by free exudation, evaporating and sedative lotions, will usually be found most agreeable and effective: The Lotio plumbi et opii,

R

Tr. Opii.

Liq. Plumbi subacetatis, āā ʒij

Aq. Rosarum, ʒiv

M.

or the ordinary black wash,

R

Hydrarg. chlorid. mitis, ʒi

Liq. Calcis, Oj

M.

are specially useful, and frequently afford the greatest relief, and perhaps tend to diminish the severity of succeeding symptoms. As a rule ointments are not of service at this time. In the second stage, however, that of moisture and crusting, if the inflammatory symptoms have in a measure subsided, ointments are of service for the double purpose of excluding the air and serving as vehicles for the special medicinal agent which we wish to employ. The most useful ointments at this time are the ungt. hydrarg. ammoniati, the ungt. hyd. nitratis, and the ungt. zinci oxidi of the pharmacopœia. They are improved by the addition of a little gum benzoin previously dissolved by heat in the lard, or the tr. benz. co. added to the ointment. Of these three, the ungt. hydr. amm. is certainly the most efficacious, the nitrate of mercury next, and the zinc

last. The white precipitate ointment may be used with freedom, and continued for a considerable time without fear of mercurial symptoms, provided the surface to which it is applied is not too extensive. I have applied it for weeks to the entire scalp, without inconvenience, and have known it to produce salivation upon one occasion only. This was in a patient (under my care at the Charity Hospital in 1864), suffering from a general eczema. For this case the zinc ointment was prescribed, and white precipitate for a patient in the adjoining bed. One day she made a mistake, and anointed herself all over the body with an ounce of her neighbor's ointment, and a three weeks' salivation, finally controlled by sulphur, was the result. The ointment of the nitrate of mercury occasionally seems to act better than the white precipitate, and it may be resorted to if the latter does not appear to act with sufficient promptness. It is, however, I think, more likely to produce salivation and hence should be used with a certain degree of caution. The zinc ointment, more frequently used, I suspect, than either of the others, does not appear to possess any directly curative properties. It acts simply as a protective, and so far is useful. It is, moreover, eminently safe and may be used *ad libitum*. Where an eruption is limited, the white precipitate is to be preferred, but where it is extensive, a portion of it only should be subjected to the action of the mercurial, while the rest may be freely smeared with the zinc. The basis of all the ointments is lard. This sometimes becomes rancid and irritates and does harm instead of good. In certain cases moreover, it seems to disagree even when fresh. These difficulties may be obviated by the use of a new preparatio

called Vaseline,¹ which does not become rancid, and is at all times a perfectly bland excipient for the special remedy which we desire to employ. In using these ointments effectively, it is necessary to first remove any crusts that may be present, which may be usually effected by an all-night poultice of boiled starch, or linseed meal. This softens and loosens the crusts, and permits of their ready removal in the morning by the aid of a little warm soap and water. The part should then be thoroughly dried with a soft cloth and the ointment applied. In the evening a second application of ointment is made without previous washing. The following morning the parts are washed again with warm suds made with some perfectly neutral soap, or one containing tar. As a rule the ordinary soaps are objectionable in this stage of eczema, but I have rarely found any ill effects follow the use of the genuine white Castile,² or a good quality of tar soap.³ After careful drying, the part is again smeared with ointment, and the process repeated until the exudation and crusting diminish, and the eruption begins to assume the dry, scaly aspect belonging to the third stage.

When the case has progressed thus far, or if it be a dry eczema from the beginning, the mercurial and zinc ointments may be replaced to advantage with preparations

¹ I have used this substance (which is obtained by distilling off the lighter hydrocarbons from petroleum, and filtering the residue through animal charcoal) extensively during the past year in both hospital and private practice. It does not appear to possess any curative properties of its own, but is certainly a most excellent substitute for lard, as a basis for many of the ointments which we are obliged to use. A still more refined product of the same kind bears the name of Romaleon.

² The imitation article is generally irritating.

³ There are at present two excellent, and several inferior, tar soaps in this market. The better ones are Constantine's and Packer's, the latter containing more tar than the former. The choice between them is to be governed by the amount of tar which we desire to employ.

of tar. The tar may be used as an ointment according to the following formula:

R \mathfrak{x}

Ol. Picis,

Glycerini, āā 3j

Cerati Simplicis, 3vj

M.

Instead of the ordinary pine tar which would be furnished upon the above prescription, the *Oleum Rusci* from the birch, or still better, the *Ol. Cadini*¹ or "Oil of Cade" obtained from the juniper, may be employed. Vaseline may likewise be substituted to advantage for the glycerine and cerate. The strong odor of the tar should be masked as much as possible by the addition of some essential oil, as rose, bergamot, etc. The ointment, in whatever form it may be used, should be thoroughly applied to the affected part night and morning, and an additional layer kept in contact during the interval. The parts may be washed daily with tar soap. Sometimes the patient's avocations will forbid the use of the tar during the day; in which case a mercurial ointment or a simple emollient may be substituted.

The foregoing treatment is adapted to all cases in which there is not much thickening and *infiltration* of the derma, but if this condition is present to any marked extent, it will be necessary to employ in addition, strong alkaline applications, a method of treatment which has been brought into special notice by the Vienna dermatologists. It will be folly to hope for the cure of a chronic

¹ There is a great deal of imitation and inferior oil of Cade in the market. The best quality that I have been able to get comes from Vienna and is labeled "K. K. Hof-Apotheke, Wien."

infiltrated eczema, until the condition of infiltration has been removed. This is accomplished by provoking a free serous exudation from the parts, and may sometimes be effected by a blister, but better by some preparation of potash. If a ten to twenty grain solution of potassa fusa be applied to the infiltrated part, we will in a few minutes perceive little droplets of serum issuing from the surface. The exudation will vary in quantity with the strength of solution employed, and with the condition of the part, and if not removed, dries into a thin crust. A similar application is to be made after an interval of twelve, twenty-four or forty-eight hours, according to the degree of the infiltration, and the amount of reaction. If the potash provoke free discharge, and it usually does, three or four applications will enable us to perceive its effect on the thickened skin. Its use is to be continued, and as the infiltration subsides, the patch will begin to assume the aspect of an eczema passing from the first into the second stage. When this occurs, the potash should be abandoned and a mercurial or zinc ointment applied. This may suffice for a cure; but if there is still some infiltration remaining, after a few days of soothing treatment, the potash must be resumed. In the intervals between the alkaline applications the part should be protected by a simple emollient. The frequency of application and the strength of the potash solution should be in direct ratio to the severity of the infiltration. In place of the solution of potash, and perhaps better than it, are thorough frictions with *sapo viridis*.¹ The part should be thoroughly scrubbed with a soft tooth-brush which has been dipped in hot water and then in the soap, the scrubbing to be kept up for five,

¹ The soft soap used for cleansing floors will answer very well.

ten or fifteen minutes, or until the part begins to bleed. If now it is desired to still further prolong the alkaline action, the soap is allowed to dry on the part; but if sufficient effect has been obtained, the part is washed with clean water, dried with a soft towel and protected by an emollient; The *spts. sapon. kalinus*, with or without the addition of a little tar, or the following formula

R

Saponis Viridis,	3viij
Ol. Picis,	
Glycerini, āā	3ij
Ol. Rosmarini,	3iij
Alcohol ad	Oj

M.

may be advantageously used in the place of the simple potash, or green soap.

The foregoing embrace the main points in the treatment of eczema, and need only to be employed with judgment to bring about satisfactory results in the majority of cases. There are, however, a few special points to which attention should be called. If there be much crusting, it will be necessary first to remove the crusts and thoroughly clean the part, before the various ointments are applied, for to be of any service they must be brought directly in contact with the diseased surface, and not separated from it by a scab, through which they cannot penetrate. The crusts may be removed by a few hours' poulticing with boiled starch or linseed meal, afterward warm soap and water, and picking off with the fingers or forceps those which still adhere. If the scalp be extensively affected, the cure will be hastened by cutting the hair short, as this will abolish the haunts of pediculi and permit the remedial

applications to be made more thoroughly. If the regions of the beard be affected, and we have the mentagra-form eczema, with pustules surrounding separate hairs, it will be necessary to epilate, that is, pull out one by one the affected hairs. This is most readily accomplished by means of a pair of properly made forceps specially designed for the purpose. These forceps should have an easy spring, square ends, and the contact surfaces smooth, and be about twice the size shown in the cut (Fig. 34).

Fig. 34.



Fig. 34.—Epilation forceps.

Occasionally it is advisable to destroy the follicle with nitrate of silver after extracting the hair. The large nodules and infiltrated bands may be reduced by frictions with the *ungt. hydrarg. cinerei*, or the *ungt. potassii iodidi*.

In the eczema of the hands and feet, when the epidermis is greatly thickened, it had better be removed mechanically, either by shaving it off with a knife, or rubbing it down with a file or sand-paper. The alkalies may then be applied.

Pruritus is often an annoying symptom, and one that it is sometimes difficult to relieve. If the applications which are being used against the lesion fail to control this symptom, it will be necessary to add to them some sedative, as opium, hydrocyanic acid or chloroform. Sometimes the most striking relief will follow the local applications of galvanism, an upward current being employed, with the anode over the itchy parts, and the cathode at the nape

of the neck. Galvanism will often reduce the infiltration in eczema, but not so rapidly nor so surely as the strong alkaline applications already mentioned. Baths are often of service when the eruption is at all extensive or very pruriginous. They should be either emollient or alkaline, or both. The emollient baths may be prepared by taking two or three pounds of flaxseed, boiling it well and then straining it through muslin into the bath water which should be at least lukewarm. If the flaxseed cannot be readily obtained, wheat bran is an excellent substitute. The alkaline bath is made by adding a pound of carbonate of soda to about thirty gallons of water, or to the emollient bath above-mentioned. The Turkish bath, which consists in sweating in hot air of a temperature from 130° F. to 190° F. followed by shampooing of the surface, often affords great relief in chronic cases. It acts both locally and also as an adjuvant to the kidneys in the task of depurating the blood, and keeping the general surface in a more active and healthy condition.

In conclusion, it may be added that while most cases of eczema will yield readily to treatment based upon the principles enunciated, if employed with judgment, there are still others, but happily the minority, which will tax the patience of both physician and patient to the utmost.

CHAPTER XIII.

PSORIASIS.

This, the second of the rheumatic affections, though not so frequent as eczema, is by no means rare. McCall ANDERSON'S statistics exhibit 725 cases of Psoriasis in 10,000 cases of skin disease in public practice, and 106 cases among 1,000 private patients.

Psoriasis may be described as a constitutional and non-contagious affection of the skin, characterized by patches of silvery-white, thick and imbricated scales, strongly attached to the skin, and which, underneath them, is slightly infiltrated and thickened, and of a deep red color, often resembling the copper color of the syphilides. Upon forcible removal of the scales, little droplets of blood may ooze from the skin. These patches vary in size, in configuration, and in locality, and a number of so-called varieties are mentioned by authors in consequence of the difference of aspect presented by different cases. At the commencement of an attack the patches may be quite small, merely papules covered with a thick white scale. This is called Psoriasis *punctata*. If larger, they may look like little drops of wax or mortar adhering to the skin and may be called *P. guttata*. If they increase in diameter so as to reach the size of a coin, they are termed *P. nummulata*. If several such spots

coalesce so as to form extensive patches, the term *P. diffusa* is employed. If the spots heal in the centre but extend centrifugally, they are called *P. annulare* or *circinata* or *P. lepraformis* or *lepra vulgaris*. If a large patch, formed by the confluence of several smaller ones, heals everywhere except at the borders, these latter may have a gyrate or sinuous form, and the name *P. gyrata* is given. Finally, if the eruption covers pretty much the whole surface, it is called *P. universalis*.

Psoriasis may occur anywhere upon the surface, from the scalp to the sole of the foot, but it still has certain favorite seats or points of election. These are the elbows, knees and hips, the two former especially. Upon other parts it frequently exhibits a notable symmetry.

The appearance of the eruption varies a little with the region affected. If upon the *scalp* the scales are large, possibly drier than elsewhere, the hair is dry and readily falls, sometimes causing a thinning or partial alopecia. This loss of hair, however, is only temporary, and perfect restoration occurs upon removal of the affection. As the eruption reaches the edge of the scalp, it is often characterized by a well marked and sharply defined border of a reddish-brown or coppery hue.

Upon the *face* the patches are usually quite small, with finer scales, presenting in fact the guttate aspect. Upon the eyelids it presents the same features, but is specially inconvenient as it is apt to impede their free motion. A catarrhal condition of the palpebral conjunctivæ is not infrequently coincident; when near the *lips*, the morbid action sometimes extends to the red border, producing scales and fissures. It may also extend for a short distance into the anterior nares. In psoriasis of the *penis*, we usually

find large flat but not thick scales, without much infiltration and accompanied with many fissures. While the organ is in a flaccid condition, the eruption may not cause much inconvenience, but erection is difficult and painful, and may be accompanied with bleeding from the fissures. If located about the female genitals it may extend to the vagina, and give rise to a desquamative leucorrhœa. When localized about the genitals of either sex, it often loses its typical characters and bears a striking resemblance to eczema, rendering a differential diagnosis, though unimportant, exceedingly difficult. I say unimportant, because, if the eruption resembles an eczema as much as it does a psoriasis, it does not matter which it is called, as the treatment would be the same in either case.

Psoriasis of the palms of the hands and soles of the feet, is characterized by large thick scales, together with deep fissures, from which more or less bloody serum may issue. This form may be so severe as to greatly interfere with the functions of these members. Psoriasis of these parts *rarely if ever* exists alone, being almost invariably accompanied with psoriasis elsewhere. *A scaly eruption confined to these parts is almost without exception a syphilide, and not psoriasis.*

COURSE.—Psoriasis, whether the eruption be scant or extensive, is essentially a chronic condition, and one which if unrelieved by treatment usually lasts for many months and often for years. Even when caused to disappear by treatment, it is ever ready to relapse upon the slightest, or even without any apparent provocation. As a rule, it is worse in winter than in summer, and in many cases disappears entirely at the latter season, to return with the advent of cold weather. This tendency to relapse is one

of the most striking and disagreeable features of the affection, and renders its treatment very unsatisfactory. For, when after months of treatment the eruption disappears, its early return upon the cessation of curative measures may, in the majority of instances, be counted upon as a certainty. HEBRA, in fact, claims that a permanent cure is impossible. This, I believe, is too strong an assertion, as I have seen cases in which, after one or two attacks, the eruption has remained away for several years, though it is, of course, impossible to say whether they will have a renewal of the affection in the future or not. It is equally impossible to form an opinion as to the probable course which any particular case will take, whether it will be characterized by frequent and persistent relapses, or whether a reasonable degree of immunity may be expected in the future. In all cases then, the prognosis must be exceedingly guarded.

The eruption having once appeared, usually commencing by small spots which increase in size, is characterized by large white, silvery and imbricated scales overlying a reddened and somewhat infiltrated patch. This infiltration varies in degree in different cases, and differs in aspect from the infiltrated patches of eczema. The surface after the removal of the scales, as a rule, is smooth, and not covered with the papules and fissures often found in the other affection. It is, moreover, always dry in typical cases, throughout its whole course, never being subject to the moisture and discharge, or alternations of dryness and exudation which occur in eczema. The scales are very quickly renewed, and in two or three days exhibit the condition observed before their removal. The deeper scales adhere with some firmness to the subjacent skin, but the

superficial ones are less tenacious, and the slightest friction suffices to remove them. This gives rise to considerable desquamation, and a large quantity of scales can usually be obtained from the bedclothes among which a severe case has reposed for even a single night. The loss, however, is hardly perceived, as a renewed formation in the deeper layers occurs with great rapidity; the case may go on from day to day, losing a teacupful or more of desquamated epidermis, without apparent modification in the aspect of the surface. After this condition has lasted for an indefinite period, retrogressive changes may occur, either spontaneously, or as the result of treatment. In either case, the desquamation gradually lessens, the size and thickness of the adhering scales diminish, the color of the underlying surface pales, and the infiltration subsides, until finally, the normal condition is resumed without leaving mark or sign to indicate the site of the previous eruption. In many cases the healing of a given patch is not uniform throughout its whole extent, but frequently commences at the centre and progresses gradually toward the margin, and exhibits a reddened ring just before final disappearance. If the patch be at all extensive, the retrogressive action may commence at several points, and before final cure, give rise to various curious figures. Frequently the greater portion will recover, leaving little reddened islets looking like flat papules which disappear more slowly.

SUBJECTIVE SYMPTOMS.—Sometimes one meets with psoriasis in patients who are more or less debilitated from other causes, and others in whom the eruption only occurs at such times, but in the majority of cases, the patients seem, and will tell you that they are, in the very best of health. A robust and florid condition may even

coincide with a very extensive and severe general eruption. When it makes its appearance in persons who are in apparent good health, it rarely, if ever, impairs their general condition even after a persistence of many months or even of years. Locally, psoriasis may be attended with a certain amount of pruritus, sometimes, though rarely, severe, but usually a mild and insignificant feature. Occasionally this symptom is entirely absent.

COMPLICATIONS.—Psoriasis may be complicated with eczema and pityriasis, each eruption presenting a typical aspect; but more frequently, there will be patches, exhibiting mixed features, in which a differential diagnosis would be neither possible nor necessary. This eruption, more frequently perhaps than any of the other rheumides, is complicated with gouty or rheumatic manifestations, either coincident with the psoriasis, or occurring during the intervals of eruption.

ETIOLOGY.—The *predisposing* causes of psoriasis are the particular conditions embraced by the term, rheumic diathesis; but the *exciting* causes are various. The following are mentioned by HARDY: "Excesses at table in eating or drinking, the too abundant use of azotized food, liquor, coffee, fatigue, mental emotion, etc." Other writers add largely to this list, but FOX passes the subject by in silence, while HEBRA, after mentioning the various causes assigned by authors, states that none of them appear to him to possess the influence attributed to them; NEUMANN re-echoes this view. It will be seen, therefore, that there is much doubt as to the particular circumstances which are capable of exciting this eruption. Of late, however, attention has been called to the not infrequent occurrence of psoriasis in certain women during gestation and lactation,

in whom the eruption appears at these times only. This may be due to debility induced by these conditions, or possibly, in the case of lactation, to the withdrawal from the blood of large quantities of fatty matters which are needed in the system as fuel for combustion, and the promotion of oxidation.

HISTOLOGY.—The microscopic appearances met with in this affection have been studied by WERTHEIM, NEUMANN and others. The changes found by them agree in most particulars, and are substantially the same as those which I have myself observed. Briefly, they are as follows: In the first place there is great increase in the number (and size, NEUMANN) of the cells of the stratum corneum. This, however, is so apparent to the naked eye that a microscopic verification of the fact is almost unnecessary. Next we have some, though not always great, increase in the thickness of the rete Malpighii. Beneath this layer the papillæ are found greatly enlarged both as to length and breadth; the capillaries which enter them are likewise enlarged and surrounded with cells. These cells are for the most part fusiform or stellate, though some are round. Beside surrounding the vessels, they are infiltrated throughout the papillæ, and in the tissues of the corium beneath, but to nothing like the extent met with in some other affections. I have likewise encountered stellate cells in the rete. Whether these new cells are proliferated connective-tissue corpuscles, or whether they are wandering leucocytes, can at present be only conjectured. There is an increase of fibrillar connective tissue in the papillæ and probably to a slight extent also in the tissue immediately beneath.

These appearances are, in part, illustrated in the following cut (Fig. 35), drawn with a camera lucida (obj. Hart-

nack No. 4, ocular No. 2), from a thin section removed with the cutisector (Fig. 23), from the forearm of a patient suffering from a long-standing and greatly infiltrated patch of psoriasis. The specimen was a little distorted in mounting.

Fig. 35.



Fig. 35.—Psoriasis, showing enlarged papillæ, with new cells about the vessels and in the neighboring tissues.

The histological relations of the nerves and lymphatics in psoriasis have not as yet been studied.

TREATMENT.—Psoriasis is an affection which will certainly try the patience of the sufferer, and the skill of the physician, more thoroughly than any other among the commoner diseases of the skin. The obstacles to satisfactory results are, in the first place, the difficulty of removing the eruption, and in the second place, the almost certainty of relapse.

The empirical remedies which have been found most useful are internally, arsenic, copaiva, carbolic acid, tar and mercury; and externally, tar and mercurial ointments, green soap and baths.

It is in this affection especially that *arsenic* has gained its greatest repute, and is by many relied upon exclusively. Given in small but gradually increasing doses for a considerable period, or in larger doses for a shorter time, it will probably in the majority of instances, if the patient can take it long enough, remove the eruption. It sometimes, though rarely, aggravates the trouble. If it be used at all, its employment should be thorough, and if a quick cure is desired, the object should be to introduce into the system the greatest possible amount of the drug in the shortest space of time consistent with due safeguards against the production of too much reactive irritation. It is of course difficult to determine in advance the appropriate dose for any given case; hence it is best to commence with small doses increased from day to day, until conjunctival or gastric irritation, etc., warn the physician that the limit of toleration has been reached. The dose must then be graduated so as to keep just within this limit until the removal of the lesions is effected. This arsenical treatment, however, I am not disposed to recommend very strongly, believing that the same results may be obtained as quickly and more permanently by other means. The use of arsenic in psoriasis is eminently orthodox; and it is the one remedy upon which the greatest reliance is placed by the majority of practitioners. By specialists it is certainly much less employed at present than it was ten years ago, being replaced to a great extent by other means.

The *balsam of copaiva* is another remedy of value in the

treatment of psoriasis. Its efficacy in this affection was discovered accidentally by HARDY, who, with others, including myself, have used it with satisfactory results. It is well adapted to hospital patients, but cannot be so generally employed in private practice, in consequence of the odor which it imparts to the urine, and sometimes to the breath. It may be given in the same doses and manner in which it is used in gonorrhea, and with the usual precautions against the production of too much gastric, intestinal or renal irritation. If capsules are employed, from four to eight daily will usually be sufficient.

Carbolic acid in commencing doses of one grain thrice daily, increased from day to day, will succeed in removing the eruption in many cases within a reasonable period of time, but is probably not as uniformly useful as copaiva or arsenic. It is most conveniently given in pill form, mixed with powdered licorice, soap, etc.

The effects of *tar* are very similar to those of carbolic acid. It is highly praised by MCCALL ANDERSON and others, but does not appear to be quite as efficient as the acid.

Mercury in the hands of MAPOTHER,¹ MILTON² and many others has done good service in this affection. The majority of authors, however, believe it to be without value. Personally, I frequently use it, and I think to advantage, in connection with other means.

The foregoing are the principal empirical remedies which are in most repute, but I have no hesitation in saying that treatment based upon purely rational indications deduced from the supposed diathetic conditions underlying

¹ Lectures on Skin Diseases, 2d edit., p. 113 *et seq.*, Dublin, 1875.

² Pathology and Treatment of Diseases of the Skin, p. 28, London, 1872.

this affection is in every way preferable. It is true that arsenic will often cure the eruption more rapidly than the remedies yet to be mentioned, as this drug appears to be almost a specific for this lesion, but its effects seem to persist for a short time only after its use is discontinued, and not uncommonly we meet with patients suffering from psoriasis whose only immunity from the affection is while they are under the influence of the drug,¹ and who, in the struggle to preserve clean skins, become confirmed arsenic eaters, a state of things certainly not to be encouraged, if other measures can be found to answer as well. I embrace this opportunity of protesting against the excessive and indiscriminate use of arsenic in this and other cutaneous affections, which has until of late been so much the fashion. Let it be understood that while I do not doubt the power of this remedy to cause a disappearance of the eruption, I most seriously question the propriety of giving it for this purpose alone.²

The method of treatment which I would recommend in preference, is substantially the same as that which has been already discussed in connection with eczema (*q. v.*) and consists briefly, in the employment of strict regimen, with an almost exclusively vegetable and fatty diet, and the use of diuretics, alkalies, oxidants and hepatic stimulants, according to the special indications present. The principles which should guide the selection of the particular remedies

¹ HEBRA, *op. cit.*, B. I., p. 294, speaks of the very temporary effects of arsenic as follows: "Die Arsenikalpräparate besitzen demnach allerdings die Wirkung, die vorhandenen Krankhaften Veränderungen der Haut zum Verschwinden zu bringen, aber es fehlt ihnen das Vermögen, neue Prorruptionen zu verhindern."

² I have looked over copies of the last three hundred prescriptions which I have employed in private practice for cutaneous affections, and find that arsenic enters into the composition of but twenty-one or exactly seven per cent. Formerly I used it much more frequently.

to be employed have been already considered and need not be repeated in detail.

Whatever form of *internal* treatment may be adopted, disappearance of the eruption will be greatly facilitated by the judicious employment of *external* measures in connection with it. The effects of local applications in Psoriasis have been specially studied at the Vienna General Hospital under the direction of HEBRA, and it is to the precious experience of this hospital, that we are indebted for our present greater precision of knowledge concerning them.

The most effectual local applications are those which include strong alkalies, tar, emollients and baths. They may be employed in the following manner: If the eruption consist of sparse patches, green soap, *spts. sap. kal.*, or the formula p. 174 should be thoroughly scrubbed into the parts with the aid of a soft tooth or nail-brush, and the scrubbing continued until the thick scales are removed and the parts begin to bleed a little.¹ When this occurs, a fresh portion of the suds is smeared on and left to dry, and if the application has been made in the evening the patient goes to bed. The next morning an alkaline bath (*sodæ carb.*, lbj, *aq. calidæ* C. xxx) is taken, and after the bath, if the patient be in a hospital, the potash application is renewed. If, however, he is obliged to attend to his daily affairs, he must, after the bath and thorough drying, be rubbed with an emollient. For this purpose the *ol. pedis bubuli*, *ol. vitel. ovorum*, or, still better, vaseline may be employed. In the evening again the soap application is repeated, and this course is continued daily until the tendency to the formation of scales has greatly diminished, and the infiltration of the patches mostly subsided. When

¹ This process is not as painful as might be supposed.

this has occurred, the potash may be discontinued and some preparation of tar substituted. It is not well to commence the use of the tar until most of the infiltration is gone. The tars best adapted to this purpose, and convenient formulæ for their use have been already mentioned (p. 172). They should be employed night and morning with strong friction, without however, omitting the daily bath. In private practice, oxide of zinc or white precipitate may be substituted for tar at the morning inunction, the tar to be employed at night. Occasional hot air or Turkish baths, with thorough shampooing, are of great service. If the eruption instead of being limited and patchy, covers a large extent of surface, the treatment may be modified a little as follows: The patient at some convenient period of the day or night¹ enters the hot chamber of a Turkish bath, and remains until perspiration is induced, drinking freely of cold water if he feel inclined. As soon as the sweating is at all free (it is rarely profuse at first, but usually becomes more so in subsequent baths), the patient is removed to the shampooing chamber and thoroughly manipulated. After this he is well scrubbed with green soap. He is then rinsed with water, at first tepid, but gradually cooled down, then dried and finally rubbed with an emollient. These baths may be repeated daily. As the eruption subsides, the potash application is gradually withdrawn and the treatment continued by the substitution of tar, both in the soap and in the emollient. After the total disappearance of the eruption, ordinary Turkish baths and simple emollients may be continued for a time with manifest advantage. This treatment differs a little

¹ The proprietors of some of the Turkish Baths do not like to receive psoriasis patients in the day time for fear of alarming the other bathers.

in detail from that practiced in Vienna, but is essentially the same in principle.

Instead of green soap, etc., HEBRA sometimes uses a modification of VLEMINGKX's solution prepared as follows:

R:

Quick lime,	1 part
Sulphur,	2 parts
Water,	20 parts

M.

Boil until the water is reduced to 12 parts, then cool and filter. This gives a dark orange-yellow, slightly caustic liquid with the odor of sulphuretted hydrogen. HEBRA recommends that it be employed as follows: Moisten a piece of flannel or pumice-stone with the solution, and rub each psoriatic patch until the exuding serum is a little reddened; then apply a little fresh solution to the part, and let it dry. After this the patient is to take a warm bath in which he remains an hour. He is then douched with clean water, dried, and rubbed with oil or some ointment not incompatible with the previous application. If this operation be performed with sufficient vigor, a single application will often suffice, but as it is quite painful, it is often preferable to use the VLEMINGKX solution weaker, or with less friction. In this case, of course, several applications will be necessary.

These various alkaline and other applications will be successful in direct proportion to the thoroughness with which they are made, but as it is not always convenient for the patient to employ them in the best manner, we must be content with less speedy results obtainable from their less efficient application. Under the best circumstances the cure of the eruption will always be a matter of weeks and

often of months. In addition to these measures I have experimented largely with galvanism in the treatment of psoriasis during the past four years. This agent possesses most positive powers in the reduction of the infiltration, and the cure of the eruption, but it is attended with the inconvenience that it necessitates the daily, or at least tri-weekly attendance of the patient, to whom the expense of such a course might be an objection. A thousand and one other remedies have been recommended for the relief of this affection, but so far as I am aware, none of them are superior to those which have been already mentioned.

CHAPTER XIV

PITYRIASIS.

The term *Pityriasis* has been used with great looseness, being employed by some to designate a condition of the skin whose chief characteristic is the presence of fine scales, in other words, the name is simply applied to a symptom. By others the term is used in a more generic sense, accompanied with various specific or qualifying additions by which to indicate particular affections, as *Pityriasis simplex* or *alba*, *P. rubra*, *P. nigra*, *P. versicolor*, etc. Now these affections are in no sense simply varieties or modifications of one particular disease, related to each other by some common natural bond, but on the contrary, are distinct affections. *P. versicolor* is essentially parasitic. *P. nigra* is an affection with which I am unacquainted, but is declared by BAZIN¹ to be likewise parasitic. *P. rubra* is a name which has been used in two distinct significations, by some to indicate the third or scaly stage of eczema when accompanied by much redness of the surface, and on the other hand, by HEBRA, as the appellation of a particular and distinct affection, not related to either eczema, or *P. simplex*. The term *Pityriasis simplex* or simply *Pityriasis* will be here used to designate an affection of rheumatic origin, whose chief char-

¹ Leçons theoriques et cliniques sur les Affections Cutanées Parasitaires, Paris, 1858.

acteristic is the presence of fine, dry, powdery scales seated upon a non-infiltrated surface, very slightly, if at all, reddened.¹ The scales are small, not imbricated like those of psoriasis, and less adherent, being readily removed by the slightest friction, but quickly replaced by the development of a fresh crop. This gives us a dry and continually desquamating surface. The patches of eruption vary in size, and may appear upon any part of the surface, though the affection is most frequent upon the scalp, face and upper part of the body, and especially hairy parts, including the scrotum and genito-crural region. It is rarely found below this upon the lower extremities. Occurring on the scalp it constitutes one of the varieties of "dandruff" and is sometimes slightly modified in appearance by the mingling of sebum in the scales. It is also frequent in the eyebrows, and in men upon the upper lip, cheeks and chin, if these parts are covered with hair, but in women and in men who shave it is rarely seen on these latter situations. It seldom or never becomes generalized.² The affection is sometimes

¹ HEBRA does not use the term *pityriasis* in this sense, but calls the affection, about to be described, *seborrhœa sicca*, stating that the scales are simply dried sebum. He says: "The dried sebum takes the form of scales resembling bran resting upon a surface otherwise healthy. They are readily removed by scratching or with the comb, or fall spontaneously in a pulverulent condition. This affection has been described by authors under the name of *Tinea*, s. *Porrigo*, s. *Pityriasis furfuracea*." NEUMANN likewise includes this affection under the name *seborrhœa*, which consists in "an increased secretion of sebum, mingled with epidermic cells," (op. cit. 3d ed. p. 79).

This would make pityriasis to be essentially an affection of the sebaceous glands without abnormal participation of the stratum corneum, and the scales to consist entirely (HEBRA) or principally (NEUMANN) of desiccated sebum. This is most certainly a mistake. Upon microscopical examination, the scales will be found to be constituted chiefly of horny cells with a varying, sometimes very slight, amount of entangled sebum.

There is an affection that may with propriety be called *seborrhœa sicca*, which will be described later under the title of *acne sebacea*.

² I have indeed met with cases of general fine-scale desquamation, whose nature was obscure, but which did not appear to me to be varieties of pityriasis, in the sense in which the term is here used.

accompanied with a little pruritus. This, however, is rarely a prominent symptom.

Pityriasis, though a comparatively mild affection, is apt to be exceedingly chronic, often lasting for months, and if not treated, for years. When it occurs upon the scalp or eyebrows it tends to induce a falling of the hair, and if left unchecked, may eventuate in premature alopecia. This, however, rarely occurs until after the affection has been years in existence.

HISTOLOGY.—The microscopical appearances found in Pityriasis consist essentially in an excessive formation of horny cells of abnormal aspect, and accompanied with vegetable spores and other changes to be presently described. We will first, however, notice the views which have been advanced by different writers. SIMON says that the scales consist of epidermic cells.¹ CAZENAVE² speaks of the scales of pityriasis as a "hypersecretion of epidermic matter." LITTRE and ROBIN³ say that "the white dust," detached by scratching, "is formed of small epidermic scales." FOX⁴ says that pityriasis "presents scarcely any other characteristic phenomenon than a desquamation of the epidermis." HEBRA, as already stated, says these scales are simply dried sebum, including the affection under consideration as a variety of *seborrhœa sicca*. It is to the recent researches of MALASSEZ,⁵ however, that we are indebted for the latest and best description of the microscopic

¹ "Das die sich lösenden Schuppen bei der *Pityriasis simplex* eben so wie die der *Pityriasis rubra* aus Epidermiszellen bestehen, lehrt die mikroskopische Untersuchung." (Die Hautkrankheiten durch anatomische Untersuchungen erläutert, S. 209, Berlin, 1851).

² Path. gen. des Mal. de la Peau, p. 126, Paris, 1868.

³ Dictionnaire de Médecin, etc., 13th ed., Paris, 1873.

⁴ Skin Diseases, 3d ed., p. 331, London, 1873.

⁵ Note sur le Champignon du Pityriasis simple, (Archives de Physiologie, 1874).

appearances found in connection with pityriasis. This observer collected the desquamated scales, macerated them for two or three days in several changes of ether, and finally washed and preserved them in absolute alcohol. A few scales were then removed to a glass slide, a drop or two of distilled water¹ added, the larger scales dissociated with needles and then covered with thin glass. Upon microscopical examination with high powers (obj. $\frac{1}{10}$ "– $\frac{1}{15}$ " or No. 10 Hartnack) the horny epidermic cells were found altered in appearance. The alteration consisting in the de-

Fig. 36.

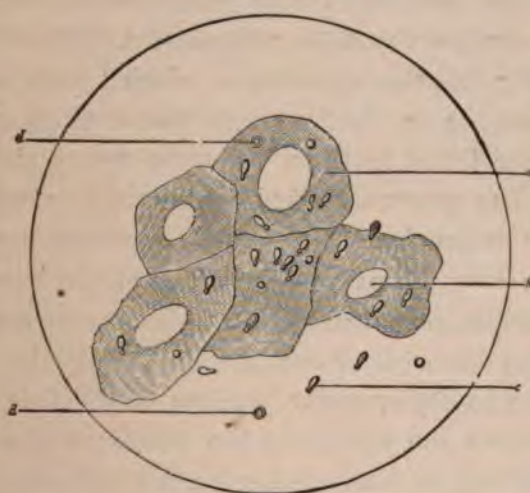


Fig. 36.—Scales from Pityriasis. *a*, horny cell with spores; *b*, nucleoid vesicle; *c*, free flask-shaped typical spore; *d*, double-contoured spores, (Hartnack No. 10, Oc. No. 3).

velopment of vacuoles, a condition described by RANVIER as "vesicular" degeneration. This is well-marked in almost all of the cells observed. In addition we find numerous spores, differing somewhat in size and appearance.

¹ I prefer a mixture of equal parts of glycerine and liq. potassæ.

According to MALASSEZ we find first, large oval spores with one end smaller than the other and with a constriction near this end; these measure from four μ . to five μ . in length by two μ . to two and one-half μ . in breadth. Smaller ones of the same shape measure but two μ . in length with a proportional transverse diameter; between these extremes we find a series of intermediate sizes. The constriction at the smaller end conveys the idea of a *gemma* or bud. Second, oval or round spores without buds, and measuring from two μ . to three μ . These different spores are found scattered upon and between the horny cells, frequently separating them into lamellæ. I have been able in several observations to confirm the statements of MALASSEZ and give in the cut (Fig. 36) the appearances which I have met with.

MALASSEZ has, in addition, made thin sections of pityriasic skin, and found in them the same spores already described. The spores were found upon the external surface of the epithelial lamellæ in small number, but deeper among the cells, throughout the whole of the horny layer, they existed in great abundance. There were none, however, among the cells of the stratum Malpighii. He also found them in the superior portions of the hair follicles, but not below the orifices of the sebaceous glands. He did not find any in the root-sheaths, nor at the roots of the hairs.

When the affection had been in existence a long time, and alopecia was commencing or advanced, he found¹ dilatation of the superior portions of the hair follicles, caused by excessive development of the horny epithelium infiltrated with spores. This ultimately leads to deformation

¹ Note sur l'Anatomie pathologique de l'Alopécie Pityriasique, (Archives de physiologie, 1874).

of the follicle and hair-root, to atrophy and permanent calvities. Of the sebaceous glands he says: "The number and the volume of the sebaceous glands do not appear changed in the second degree of alopecia; but in the cases of calvities which I have studied, these glands were evidently less numerous, and some were much atrophied, but the greater number, however, had preserved their normal dimensions."

These observations of MALASSEZ, which, with the exception of those noted in the last paragraph, I have been able to confirm, entirely confute the opinion of HEBRA, that the branny pellicles are nothing more than little masses of dried sebum. In fact, there is no evidence that the sebum in this affection is secreted in undue quantity, that it is in reality a seborrhœa; on the contrary, it is probable that there is a deficiency in this secretion, and that pityriasis is a distinct affection, and must not be confounded with *seborrhœa sicca* as is the custom in Vienna.

ETIOLOGY.—The discovery of the fungus described by MALASSEZ, has led both him and CHINCHOLLE¹ to consider the disease to be essentially parasitic in nature and origin—a conclusion which seems to me somewhat premature. The mere presence of a fungus in any eruption is not sufficient or conclusive evidence that the affection is produced by the fungus, that the affection is in reality parasitic. If we accept the views of the panspermatists, that fungal germs are omnipresent, and need only a proper soil in which to propagate, we can readily conceive that the peculiar spores of pityriasis may find in the already abnormal epidermis, the habitat which they require, and having once taken

¹ De la nature parasitaire du Pityriasis Capitis et de l'Alopécie consecutive, Paris, 1874.

lodgment, multiply with rapidity, and aggravate what might otherwise have been a trivial, and perhaps unnoticeable affection. On the other hand, if the affection were really parasitic, that is, if the spores were capable of producing the affection by simple lodgment upon healthy epidermis, we would expect a much more general diffusion of the affection; we would expect to find evidence of contagion, not yet offered, and to be able to provoke it by inoculation, the possibility of which has not yet been shown. Contagion and capability of inoculation should be proven before we consent to the admission of any eruption among the phytous parasitic affections of the skin.

Pityriasis, I believe, has its *fons et origo* in the conditions embraced by the expression rheumatic diathesis, though it is frequently brought into being by local irritations of various kinds. The abnormal production of epithelium offers a suitable soil for the growth of the fungus whose presence induces fresh irritation and reaction, and explains the great chronicity of the affection, and its ready relapse when but partially cured.

PROGNOSIS.—Pityriasis, when not located upon a hairy part, is usually a trivial and insignificant affection and one which can, as a rule, be cured without much difficulty; but if it reaches the hairy portions of the face or the scalp, it is more apt to become chronic, and by its persistence to result in a temporary or permanent alopecia. It is this fact, which gives a special importance to the disease.

TREATMENT.—The treatment of pityriasis involves the employment of the general measures which have already been considered in connection with eczema and psoriasis, and need not be here repeated, and also certain local applications specially adapted to the lesion. Personally I have

had the best success, by a preliminary green-soaping for several days, followed by tar ointment for a week or two or longer, and this in turn succeeded by a mercurial ointment (white precipitate or nitrate) and finally, the prolonged use of some bland, oily application. MALASSEZ and CHINCHOLLE recommend an ointment of Turpeth mineral about fifteen grains to the ounce. If the eruption is located upon a hairy part, as the scalp, it is well to cut the hair as short as possible, for the shorter the hair the less tendency there is to the excessive formation of scales, and furthermore, the local applications can be made with more thoroughness.

CHAPTER XV.

LEPROSY.

This, though a rare disease in the United States, is occasionally met with (exotic and endemic), and is of so interesting a nature that it merits a careful description.

HISTORY.—It is probable that the words translated *Leprosy* in both the Old and New Testaments, embraced the affection now called by this name, but it is also probable that these words had a more extended signification, and included in addition certain other chronic and serious diseases.

The disease has been known in the East (Asia and Africa), from very early times. At the beginning of the Christian era, it was not very prevalent in Europe, but in later centuries it spread over the whole continent, and the British Isles, and for several hundred years existed as a very prevalent and much dreaded scourge. Later again, it gradually disappeared from the more central portions of the continent and from England, and at the present day is only found endemically in Greece, Italy and Spain at the south, and Norway and Iceland at the north, with occasional sporadic cases elsewhere.

It also occurs endemically in Africa, Asia Minor, China, Japan, India, the eastern isles, the Sandwich Islands, Cen-

tral and South America, the West Indies, and numerous other places within the tropics. In North America it is found in Mexico, Louisiana, California (among the Chinese), Wisconsin, and elsewhere (among the Norwegian settlers¹), and for the past hundred years at Tracadie in New Brunswick, B. A. At least one case has arisen spontaneously, and without leprosic ancestry, in the vicinity of New York.²

NOMENCLATURE.—This affection is termed by many systematic writers Elephantiasis Græcorum, a name which had better be abandoned, as it is not appropriate, and suggests a relationship to the disease called Eleph. Arabum. By most German and French writers the term *Lepra* is employed instead. Unfortunately the same name is used in England to designate an entirely different affection, namely, a variety of psoriasis. The impropriety of this usage, introduced by WILLAN, was pointed out long ago by HEBRA, but it is still maintained by MCCALL ANDERSON, GASKOIN and others. In Norway the disease is called *Spedalskhed*.

VARIETIES.—Leprosy exhibits several different phases, each of which may be specially prominent in a given case, although two or more are frequently commingled in varying proportions. Following KAPOSI³ I shall divide the disease into three principal varieties, namely, the Tubercular, Macular and Anæsthetic.

HISTOLOGY.—The symptomatology of leprosy will be

¹ HOLMHÖE, British and Foreign Med.-Chir. Review, Jan., 1870. BOECK, Spedalskheden i de Forenede Stater i Nord-Amerika, Kristiania, 1871.

² This was a patient of the late DR. BULKLEY, who presented him at a meeting of the N. Y. Dermatological Society, held Nov., 1870. Prof. BOECK, who was present, pronounced it undoubted Leprosy.

³ HEBRA, op. cit.

more easily comprehended, I think, if its histology is first considered. Briefly premising that the principal skin lesions are macules, tubercles, bullæ, ulcers, anæsthesia and carious and atrophic processes, we find upon microscopical examination the following changes which have been ascertained by SIMON,¹ BOECK and DANIELSEN,² VIRCHOW,³ STEUDENER,⁴ KAPOSI,⁵ NEUMANN⁶ and others.

Tubercles.—According to VIRCHOW, examination of the tubercles gives constant results. They are found to consist of a granulation tissue rich in cells, which alone constitute the substance of the new growth. In the younger tubercles from which the hairs have not yet disappeared, we find granulations which extend from the still intact epidermis downward to the panniculus adiposus, not generally in one uniform mass, but as large bands running in all directions and specially developed near the hair follicles. Viewed with a higher amplifying power, the new mass of granulation tissue is found composed of cells which present a variable form and size according to their degree of development. We find connective-tissue corpuscles, at first fusiform or stellate, exhibiting division of nuclei and cell body, with loss of angular peculiarities, until finally the young cells are small and round with relatively large nuclei, together with free nuclei. This progressive change of connective-tissue corpuscles into round cells is shown in Fig. 37. As the development continues the round cells preponderate until finally they constitute the entire substance of

¹ Op. cit., p. 289.

² *Traité de la forme anaesthetique de Spedalskhed.*

³ Op. cit. and *Deutsche Klinik*, 1861.

⁴ *Beit. z. Pathologie der Lepra Mutilans*, Erlangen, 1867.

⁵ HEBRA, op. cit., B. II., s. 419, *et seq.*

⁶ Op. cit.

the new growth, the normal elements of the tissue being at the same time more or less obscured. The sudoriparous and sebaceous glands are destroyed and the hairs degener-

Fig. 37.



Fig. 37—Cells from leprosy tubercle (VIRCHOW). *At the left, large stellate and fusiform cells with nuclei and nucleoli; in the middle, division of cells and nuclei; to the right, round cells with one or more nuclei.*

ate and disappear. There is often, however, an enlargement of the *arrectores pilorum*. The older tubercles may, after a lapse of years, undergo fatty degeneration of their cells, with subsequent absorption, or more rarely become purulent. Most authors agree

with this description, but NEUMANN states in addition that large colloid corpuscles are found scattered through the infiltration as shown below, Fig. 38. The cells constituting a leprosy tubercle possess a much greater vitality and stability than the cells which form similar granulation masses in syphilis and lupus; evidenced by their long resistance to retrogressive changes.

Macules.—The macules exhibit the same development of small round cells which we find in the tubercles, but of course with a much more superficial distribution.

Changes in and about the Nerves.—We learn from DANIELSEN,¹ that the neurilemma of the fine nerves, ramifying in the adipose tissue beneath the macules, presents at first a rosy aspect from congestion, but later becomes thickened and of a reddish-brown color. The larger nerve trunks are also smaller and brown. The ulnar nerve is the one which is usually first attacked. In the beginning only a portion of its fibres are affected, but later the whole nerve may become involved, swelling at different parts to double its ordinary

¹ *Traité de la forme anaesthetique du Spedalskhed.*

Fig. 38.



Fig. 38—Leprous tubercle from the forehead (NEUMANN). *a*, epidermis; *b*, cutis with cell infiltration; *c*, colloid corpuscles; *d*, sebaceous glands with stratified contents; *e*, twisted hair follicle with atrophied hair; *f*, irregular connective-tissue band, possibly an obliterated hair follicle.

size. Subsequently other nerves of the upper and lower extremity become involved in the same manner. Later the spinal cord itself becomes affected. Upon microscopical examination we find abundant development of fusiform and other cells in the neurilemma and septa, and atrophy of the nervous fibrillæ. VIRCHOW's observations are essentially the same. STEUDENER, who has examined the changes in the nerves in several cases with great care, found thickened neurilemma, with proliferation of connective-tissue cells, capillary vessels enlarged, and surrounded with small-cell infiltration, and abundant small-cell infil-

tration between the separate nerve fibres. Upon examining the ultimate fibrillæ, he found them in every state of degeneration and atrophy.

Fig. 39.



Fig. 39.—Transverse section of the ulnar nerve. (STEUDENER). *Nerve fibres separated by infiltration.*

In the spinal cord he found extensive alterations, consisting in the development of diffuse colloid masses and isolated colloid cells in the gray matter, and thickening of the coats of the vessels of both the white and gray portions of the cord, with surrounding colloid degeneration.

It will be thus seen that the lesions of leprosy so far as known are the result of proliferative changes in the skin, and in the connective tissue about the nerves, which at first augment the volume of the affected part, but ultimately, by atrophy¹ of the proper tissues, leads to destruction of the

¹ I have myself found upon microscopical examination the peroneal nerve degenerated into a small fibrous cord, betraying little evidence of its original structure.

function of the organs affected. We can now better understand the symptoms of this disease.

Fig. 40.

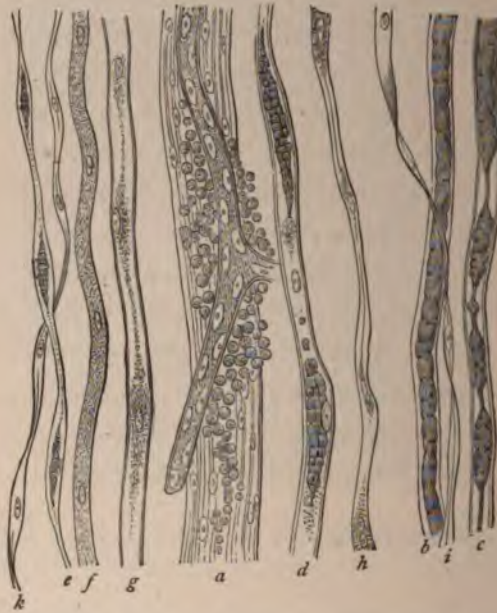


Fig. 40—Isolated fibrillæ from the ulnar nerve. (STEUDENER.) *a*, small nerve-bundle with capillary vessel surrounded by small cells; *b*, normal fibre; *c*, *d*, *e*, *g*, *h*, fibres whose medullary substance has undergone various grades of degeneration and absorption; *f*, complete fatty and granular degeneration; *i*, *k*, empty nerve-sheaths.

SYMPTOMS.—My own observations of this disease are confined to the examination of five undoubted, and two doubtful cases. Of the former, two were under observation for several years, and the history of one of them has been published.¹ The others were patients of medical friends and were seen by me but once.

The clinical divisions of macular, tubercular and anæ-

¹ New York Medical Gazette, Dec. 4th, 1869.

thetic leprosy, adopted by KAPOSI, are based upon the fact that certain cases present these peculiarities at the beginning, and often to a marked degree, and frequently preserve them throughout the entire course of the disease, so that in the one case the skin is alone or chiefly affected, while in the other the peculiar morbid processes first occur about the nerves; and the subsequent cutaneous lesions are but secondary, and the necessary results of the nervous alterations. Before the symptoms of leprosy become sufficiently distinct and characteristic to be recognized as such, we commonly find a prodromal stage of greater or less, often of years, duration. In this stage there is nothing to particularly attract the attention to leprosy, and the only evidence of ill-health may be a feeling of languor or loss of force, with sometimes mental depression. Occasionally a brownish discoloration (*macule*), or an isolated bulla, may appear from time to time, the first one usually healing before the second makes its appearance. Later the macules become more abundant and larger, from the size of a coin to that of a hand, but it is difficult to appreciate with the fingers any thickening or infiltration. The patches at first are of a reddish-brown, and as they increase peripherally their advancing border retains this color, while the centre and other portions gradually lose it, and fade into a dirty gray, and sometimes to dead white. Sometimes these spots may disappear entirely without leaving any mark (KAPOSI). When the spots first appear they are commonly *hyperæsthetic*, but as the disease progresses this condition gradually disappears, and ultimately the white patch becomes completely anæsthetic. This is readily explained by the early congestion, and subsequent destruction of the finer nerves. In company with the mac-

ules, or without them, *tubercles* may arise. These are thickened elevations of the skin, sometimes quite circumscribed, at other times more diffuse, but commonly without much discoloration. At first they may be hyperæsthetic, subsequently becoming anæsthetic. They may appear upon any part of the body, but very frequently make the face their favorite seat, showing themselves above the eyebrows, about the lips and upon the ears. When they are developed to any great extent, they render the features repulsive and disgusting to the last degree. The tubercles frequently persist throughout the whole course of the disease, but sometimes undergo ulceration, or disappear by interstitial atrophy and absorption. Coincidentally or subsequently the mucous membranes of the buccal cavity, nares, pharynx, etc., may present similar changes. Accompanying the tubercles there may be patches of skin which are anæsthetic, but which exhibit no other apparent change. This anæsthesia may be temporary or permanent.

The *anæsthetic* form of leprosy may arise as a late stage in the course of a case which at the beginning had exhibited tubercular features mainly, or it may occur without such previous tubercular development. The principal cutaneous lesions met with at the commencement of this form are *bullæ*. These vary in size, and persist for a short time only. Commonly they rupture, dry up and leave a stain, which after a time becomes anæsthetic. Hyperæsthetic patches of varying extent may appear from time to time, and persist for months or longer, and be ultimately succeeded by anæsthesia. The anæsthetic portions of skin may also undergo a certain degree of atrophy, which process may involve the subcutaneous tissues, and result in ulcera-

tion, and if situated upon hands or feet, to caries of the bones of these parts. The following case observed by me when an interne at Bellevue Hospital in 1864-5, exhibits many of the prominent features of this disease.

CASE III.—Wm. T., aged 25 years, was admitted into Bell. Hosp. in May, 1864. He was of English parentage, but was born and passed his early years in British Guiana. After a vaccination performed when young, his arm became greatly swollen and inflamed and large sloughs separated. Investigation revealed the fact that the vaccine virus had been taken from a negro, whose mother was a leper. At the age of seven years some brownish spots appeared upon his back and arms; and at the age of eleven a blister formed in the palm of his right hand, followed by permanent contraction of the flexor tendons. A few months later he felt a tingling sensation around the nail of the right index finger, followed by a line of supuration and loss of the nail. The finger soon healed, but the same morbid process repeated itself in the other fingers of the same hand. After a few months, according to his statement, the skin of the distal phalanges split, and the flesh shrank away from the bones, leaving them exposed. The bones separated at the joints, and the stumps healed. These various processes occupied eighteen months or two years.

The disease then affected the distal phalanges of the left hand in the same manner. After this it attacked the right foot, and a slough formed over the lower part of the instep. The great toe then became swollen, the skin split, and its distal bone separated. Loss of the same bone of the left great toe followed, and then without much regularity, the remaining phalangeal bones of the fingers and toes necrosed and came away. During the eighteen months previous to his admission into the Hospital the disease had made no apparent progress.

Upon examination he presented the following appearances: His right hand was destitute of fingers, the last separations having occurred at the metacarpo-phalangeal articulation, leaving the stumps round and shining, with no bone protruding; but on the left hand the separations are mostly through the *continuity* of the proximal phalanges. Over all the stumps there are fissures opening and closing

at intervals. These form, extend through the integument, bleed a little and close, leaving a furrow in the skin with indurated edges. The dorsal surfaces of the hands are studded with tubercles, and some are found upon the palmar margins, and upon the wrists, but none on the arms or other parts of the body. There is some diminution of sensation in the forearm. The toes have separated from the left foot at the metatarso-phalangeal articulation, without any of the fissures noticed upon the hands. In the right foot the disease has made further progress, portions of the metatarsal bones having come away.

The strong muscles of the calf not meeting with their accustomed resistance, have caused a *talipes equineus* of both feet, and all attempts at walking result in troublesome ulcers at the ends of the stumps. Anæsthesia is more complete in the lower extremities than in the upper. He suffers from no marked constitutional derangement, all his functions being well performed, except that he is troubled with frequent nocturnal emissions.

On the 8th of October, six months after admission, he was found to be in a high fever. He stated that this condition usually appeared when he was about to lose a piece of bone. Examination revealed a small abscess upon his foot, and a piece of bone could be felt just under the skin. A poultice was applied, and the next day the abscess broke, the piece of bone was removed and his febrile symptoms disappeared.

Upon the 17th of January and 1st of March, 1865, he had similar febrile attacks with loss of portions of bone. In April, both Achilles tendons were divided subcutaneously, to remedy the talipes and enable him to walk more conveniently. The operation succeeded in the left foot, but failed to remedy the deformity in the right. Subsequently Symes's amputation at the right ankle joint was performed by Dr. Stephen Smith, Visiting Surgeon, for the purpose of providing a stump to which a useful artificial foot could be adjusted. The stump healed kindly.

He was discharged from the Hospital in April, 1869, and went to the "Home for Incurables," at West Farms, N. Y., and came under the care of the late Dr. H. M. Sprague. He remained a year or two at this institution and there died.

The average duration of leprosy is about fifteen years,

and the patients usually succumb, if not carried off by some intercurrent disease, to debility, marasmus or gastro-intestinal trouble.

ETIOLOGY.—The causes of leprosy are obscure. While climatic and hygienic influences have been supposed to be potent in production of this disease, it has been found that these influences are not identical in character in the different localities where this disease is most prevalent. Hereditary influence is an important and acknowledged factor, though many cases arise among natives and others which cannot be attributed to this influence. Under certain circumstances the disease would appear to be contagious, at least so say many of the Indian observers,¹ and the occurrence and rapid spread of the disease in the Sandwich Islands would lead to the same suspicion. On the other hand, the majority of observers deny it this property, and the facts which have come under my own notice are in accordance with this latter view.

TREATMENT.—The host of remedies which have been recommended for leprosy, and the fact that none of them can be relied upon, prove the rebelliousness of the affection, and the futility of most of the so-called specific methods of treatment to alleviate, much less cure this disease. A few cases have undoubtedly improved and some have perhaps completely recovered. These are such rare exceptions, however, that it is hardly worth while, at the present time, and in this place, to enter into any detailed consideration of them. About all we can reasonably expect to accomplish is to mitigate the severity of the affection in a measure, by removing the patient from leprous districts

¹ A Medical Report upon the Character and Progress of Leprosy in the East Indies, etc., London.

where the disease is endemic, and by combating individual symptoms as they arise.

In regions where the disease occurs endemically, segregation of lepers should be strictly enforced, but when it occurs sporadically this would not seem to be necessary.

CHAPTER XVI.

ICHTHYOSIS.

This is another of the rarer affections of the skin, and of much less importance than the disease last described. To the naked eye its prominent characteristic appears to be an excessive development of epidermis; and in the anatomical classifications it is placed by the side of psoriasis and pityriasis in the class of squamous diseases. As a rule Ichthyosis is developed in early life, even a few months after birth, though exceptionally it may appear for the first time after adolescence. Once fairly established it is rarely cured, but persists indefinitely, and usually during the whole life of the patient. It is markedly hereditary, and frequently affects several members of a family.

Ichthyosis manifests itself in the beginning by great dryness of the skin with excessive production of horny cells, but as a rule there is, at first, little change in the color of the skin; that is to say, the skin is not reddened. The natural lines of the skin are deepened and become more manifest, mapping out the surface into little areas plainly visible to the naked eye, which under ordinary circumstances could only be perceived with the aid of a lens. The dry and scaly condition of the skin would at first suggest the idea of pityriasis, but a more careful examination

would show that the constant fine, bran-like desquamation, so prominent a feature in pityriasis, is absent in Ichthyosis. The epidermic scales, although found in excess, do not rub or drop off, almost as soon as formed, as in pityriasis, but on the contrary remain attached and heaped up as in psoriasis, and only dropping off or easily removable when the layers of scales have attained a considerable thickness. Upon removal of these thickened masses we do not find much change in the color of the skin, but simply a dry surface marked by exaggeration of the normal skin-lines. In psoriasis, on the other hand, upon forcible removal of the scales we, find marked redness and sometimes slight oozing of blood. In Ichthyosis these two features are absent. The affection does not develop in the same manner as psoriasis, from numerous small punctate or guttate spots, but is more diffuse, and usually affects the extensor aspects more extensively and severely than the flexor.

In the beginning, when the skin is nearly dry, and with moderate epidemic hypertrophy, the prevailing color of the skin, in persons who keep themselves clean, is light, although there appears to be some increase of pigment in the cells of the rete. To these earlier stages of the affection the name *Xeroderma* is sometimes given. This term means simply *dry skin* and is applicable and frequently applied to certain conditions of the skin of which dryness is a marked feature, but which probably have no connection with the affection under consideration. It is simply the name of a symptom or lesion, and should not be used as it is by some as synonymous with Ichthyosis. Conditions not infrequently occur to which the name xeroderma may with propriety be applied, but which are not and never will become Ichthyosis.

Later, as Ichthyosis advances, the masses of epidermis become much thicker, and separated into little hillocks, as it were, by numerous lines and fissures. The fissures extend through the epithelial accumulation, but do not generally invade the rete or the derma, and hence are not accompanied with the oozing found in some other affections. The color of the surface changes also, becoming tawny, dark, and at last almost black. This is due not so much to pigmentary discoloration of the skin proper, as to accumulation of dust and dirt among the epidermic scales. Finally in a fully developed case we have a more or less generalized epidermic hypertrophy, of dark aspect, and everywhere seamed by cracks and fissures, interfering sorely with the comfort of the patient. A remarkable peculiarity of this disease is the diminution or absence of perspiration. In many cases this function is merely diminished, in others it appears to be totally absent. This is undoubtedly due either to congenital absence or defective formation, of the sudoriparous glands, or to their early atrophy. In a case which I recently had the opportunity of observing, it was impossible to detect with an amplifying power of twenty diameters, any trace of the little depressions, in the papillary ridges of the palmar surfaces of the hands and fingers, which correspond to the mouths of the sudoriferous tubes, which are so distinctly visible in normal skin. At most, minute points of a pearly lustre, not depressed, were observed in the situations where the sweat tubes should have opened. Upon the finger-tips alone were found normal tubes, few and far apart, capable of properly discharging their function. In this case, besides the almost complete absence of perspiration, there was also deficient menstrual flow. Her health was otherwise good.

PROGNOSIS.—As a rule the local difficulty is never wholly remedied. A cure may generally be considered out of the question, and the affection expected to afflict the patient to a greater or less degree during his entire life. In other respects the general health may be, and frequently is, very

Fig. 41.



Fig. 41.—Section of ichthyotic skin (KAPOSI).¹ *a*, horny cells in layers; *b*, rete; *c*, enlarged vessels; *d*, thick connective-tissue bands; *e*, lengthened papillæ.

good, and with the exception of the perspiration, the other functions may be well performed. It is remarkable that the absence of perspiration appears to influence the patient's general condition so little.

¹ Archiv für Derm. in Syph., B. I.

HISTOLOGY.—The microscopical appearances observed in this disease, according to NEUMANN, may be briefly stated as follows: The papillæ are enlarged and infiltrated, the vessels dilated, the cutis thickened, the connective tissue condensed into bands, the horny epidermis enormously increased, the rete *between* the papillæ hypertrophied, and the pigment deposit increased in its deepest cells. These changes are shown in the cut (Fig. 41).

ETIOLOGY.—Other than as an hereditary condition, the etiology of ichthyosis is unknown.

TREATMENT.—We may, in the beginning, abandon all hope of definitely and radically curing Ichthyosis, as the most that we can do is to ameliorate to a greater or less extent its inconveniences. The first therapeutical indication is to remove the scales. This may be done by daily, or twice daily frictions with green soap, aided by alkaline, hot air or vapor baths. After the frictions with soap and the baths, the skin should be thoroughly rubbed with some oleaginous emollient. A very excellent formula for this purpose may be prepared as follows:

R:

Potassii iodidi,	3j
Ol. pedis bubuli,	
Adipis,	āā 3iiss
Glycerini,	3j

M.

Instead of this we may use cod-liver oil, *ol. vitel. ov.* or vaseline. After we have succeeded in removing the scales, and getting the skin in a tolerably fair condition, if we stop treatment, the morbid condition will soon return as badly as ever. It will therefore be necessary to continue treatment indefinitely, by the more or less frequent use

of alkaline and Turkish baths with daily inunctions. By these means and by these alone, the condition of the patient may be rendered quite comfortable, so long as they are persisted in. Internal remedies appear to be of no service in this disease with the possible exception of cod-liver oil.

CHAPTER XVII.

GENERAL NON-DIATHETIC AFFECTIONS.

The affections embraced in this class are well and fully considered in treatises upon general medicine. They usually come under the care of the general practitioner not of the specialist. For these reasons they will not be considered in this place.

CHAPTER XVIII.

REFLEX AFFECTIONS.—ACNE.

Under the general name Acne, I embrace all the affections of the sebaceous glands with the exception of certain varieties of Lupus, Wens (Steatomata), and Molluscum contagiosum. In the majority of instances it is the glands belonging to the second group (page 18), namely, those associated with rudimentary hairs, that are affected. In infancy, however, as will be presently seen, glands belonging to the first group, as those of the scalp, are sometimes involved, a fact which need not surprise us, when we consider that the scalp glands in infancy are relatively more highly developed in comparison with the hair than at a later period.

Most writers describe Acne as a purely local affection, but I have placed it in the group of reflex affections in consequence of a firm belief that in the great majority of instances it is not a primary condition, but one dependent upon irritation, derangement or disease of other organs, reflected upon the skin, the special organs involved being those connected with the sexual and digestive systems. The intimate physiological connections which exist between these organs and the circulation in the face, are so well known that they here require nothing more than an allu-

sion, and it should not be a matter of surprise that chronic affections of these organs are capable of perturbing the facial circulation, and leading to the development of lesions upon the skin. Clinically, we will find upon careful examination that in the majority of cases of Acne, there is some pre-existing irritation, or unusual condition of some one of these organs. This derangement may be merely functional, or it may be organic. The milder varieties of Acne usually occur shortly after the establishment of puberty. In the male the affection may entirely depend upon the physiological changes which take place at this period, and may be prolonged for several years, or it may be produced or aggravated by masturbation. In the female the same causes may induce the evolution of Acne, or it may be excited or intensified, by some irregularity in the establishment of the menstrual flow.¹

¹ More than one observer has reported numerous cases of Acne in the female that were not dependent upon uterine difficulty, and have stated their belief that there is no connection between the two. My own experience has been so entirely different that I cannot help suspecting that their failure to find evidence of uterine derangement is due to imperfect inquiry and examination. HEBRA's judicious remarks as to the necessity for thorough attention to this point are so pertinent, that I shall quote them in full. Speaking of Acne Rosacea, he says: (B. I. S. 544). "Researches made with care have demonstrated that women, young or old, who suffer from Acne Rosacea usually suffer from menstrual disorder. Of the exact nature of the trouble we are often obliged to remain in ignorance, in consequence of the frequent impossibility, or at least difficulty, of making a direct examination of unmarried women, or of obtaining from them a history of any value. I will simply recall, as example, how rare it is to obtain satisfactory replies when you ask a young woman if her menstruation is regular or not, whether it is scanty or profuse, or whether painful or not. According to my experience she will at first reply that she is all right in that respect (*alles in Ordnung*), while later, if she is questioned with some persistence, she will admit that it is entirely otherwise. This is quite natural, and should be attributed rather to the manner in which the questions are put, than to a desire on the part of the patient to deceive. A question asked in general terms pre-supposes, if a correct and exact reply is to be given, that the patient herself knows exactly how and when the menstrual epoch should appear, how long the flow should last, and what should be the proper intervals. This is evidently too much to expect of a young girl. The best way is to ask direct

The milder forms of Acne are usually found in young persons, and date their origin from about the time of the establishment of puberty. The severer forms are more frequently found in individuals from twenty-five to fifty years of age or even later, and in males are usually induced by gastric derangement, which derangement may be some of the many forms of dyspepsia, or may be due to the excessive use of alcoholic liquors.¹ I am not aware that any derangement of the male sexual apparatus gives rise to Acne late in life. In the female, the causes we have mentioned may induce the severer forms of this disease, and in addition they may be caused by chronic, inflammatory or organic disease or displacements of the uterus, or abnormal conditions of the ovaries.

The principal varieties of Acne are

Acne sebacea

“ punctata

“ miliaris

“ simplex

“ indurata.²

and precise questions, for instance, ‘When were you unwell last?’ ‘How many days did the flow continue?’ ‘After how many days does it usually return?’ ‘Is it preceded by or accompanied with pain?’ ‘Do you suffer from the whites before, after or during the interval?’ ‘What is the quantity, nature and color of the discharge?’ ‘When do you next expect to be unwell?’ etc. The result of an inquiry pursued in these terms will demonstrate how imperfectly acquainted the generality of women are with these matters, but it is the only means by which we can hope to obtain the information we need, and which is so indispensable to their welfare.”

¹ Producing the form of Acne vulgarly known as “rum-blossoms.”

² There is an affection of the sebaceous glands in infancy called *seborrhoea capillitii* already alluded to, which consists of a hypersecretion of sebum, which drying forms crusts upon the scalp, resembling pityriasis. This is not, so far as I am aware, a reflex affection. It does not resemble the other varieties of Acne sufficiently to be considered among them, and is too trivial an affection to warrant a separate chapter. Oiling the scalp, and removing the crusts with soap and water, and subsequent cleanliness will generally keep it under control.—The affection known by the name of Acne Rosacea or Gutta Rosea is not, properly speaking, a variety of Acne, and will be considered separately.

Acne sebacea is a functional affection of the glands, and consists in an excessive formation of thin, oily sebum, which flows in great abundance from the orifices of the sebaceous glands. The glands usually affected are those of the forehead, cheeks and nose, or it may be confined to the glands of the latter alone. It gives to the skin a greasy, unctuous and shiny aspect, and affords a convenient harbor for all particles of dust and dirt that may be floating in the atmosphere. This variety of Acne is not so frequent as the others, but is the source of annoyance to the patient, and sometimes is sufficiently marked to induce him to consult a physician concerning it. It frequently lasts for several years if unchecked, but rarely amounts to anything more than an inconvenience. If the hand be passed over the affected parts, it will take up a considerable portion of the sebum, and, if a piece of paper or linen be applied, it is readily stained. Sometimes, when the secretion is abundant, it loses its watery parts by evaporation and dries upon the surface into thin scales, which must not, however, be mistaken for those of pityriasis. *Acne sebacea* usually occurs in young persons from fifteen to twenty years of age, rarely later than the twenty-fifth year. It is specially marked about the time when puberic changes are most active. The chief annoyance connected with it is the shiny appearance of the skin, and the readiness with which dust and dirt adhere.

Concerning its pathology we can say but little, except that it seems to consist in a hypersecretion of thin altered sebum.

TREATMENT consists in careful attention to the general health, the elimination of any discoverable causes if possible, alkaline washes to dissolve the grease, and the applica-

tion of astringents and absorbents. Of these a weak solution of tannin or a powder composed of

Tannin, $\mathfrak{D}\mathfrak{j}$ - $\mathfrak{3}\mathfrak{j}$

Rice powder (Lubin's), $\mathfrak{3}\mathfrak{j}$

afford good results, or the *tinct. ferri chloridi*, pure or diluted with alcohol, may be used.

ACNE PUNCTATA.

This is the name given to the form of Acne in which the face is studded with little black points looking like grains of gunpowder. These points indicate the openings of the sebaceous follicles, and the black speck itself is caused by the dirt which has been entangled in the external extremity of the plug of sebum which fills the follicle. If the skin in the neighborhood of these points or punctæ be firmly compressed, the sebum will be forced out of the follicle in the form of a little worm-like body with a black head, called a comedon. Instead of the sebum being fluid and oily as in the last variety, and running freely from the follicle, it possesses much greater consistence, and is retained in the follicle, which it either gradually distends or irritates up to the point of inflammation, producing Acne simplex.

Acne punctata is specially frequent in youth just passing the stage of puberty, and while sometimes very insignificant, at other times is so considerable as to cause serious disfigurement, demanding relief at the hands of the physician. The general causes heretofore assigned, namely puberty, and the misuse of the generative organs are probably at the bottom of this trouble. Of the microscopical anatomy of this form of Acne we know nothing positively, but the lesion seems to consist in the secretion of an extra quantity of thick sebum, with an inability on the part of the glands and follicles to discharge it freely.

TREATMENT consists in attention to the general health, breaking up any bad habits if they exist, and locally removing the impacted sebum by pressure upon the surrounding skin. This may be effected by squeezing the skin around the follicle between the nails, or more readily with the aid of a watch-key, or still better with a little instrument which I have devised for the purpose, and which is here shown, Fig. 42:

Fig. 42.



Fig. 42—Comedon extractor.

This extrusion of the sebum-plugs should be accomplished as thoroughly as possible, and the face daily washed with soap and water. I am not acquainted with any internal or external remedy which can be relied upon to check the tendency to the formation of comedons; and our chief care should be to keep the face in a presentable condition until the affection of its own accord deserts the patient, which it will usually do in four or five years from its first appearance. Matrimony is said to be of service in bringing about a speedier accomplishment of this end.

ACNE MILIARIS.

This form of Acne, sometimes called simply Milium is, like the last affection, characterized by the retention of sebum. Instead, however, of a black point upon the level of the skin we have a minute white or pearly papule or tumor, elevated a little above the surface. These frequently occur in great numbers, and their favorite seat is the neighborhood of the eyes. In some way the orifice of the follicle becomes obliterated, and is frequently indis-

tinguishable, and the sebum gradually collecting, distends the gland, and raises and renders tense the epidermis above it. Its structure is shown in Fig. 43. In reality milium is simply a small wen or steatoma.

Fig. 43.

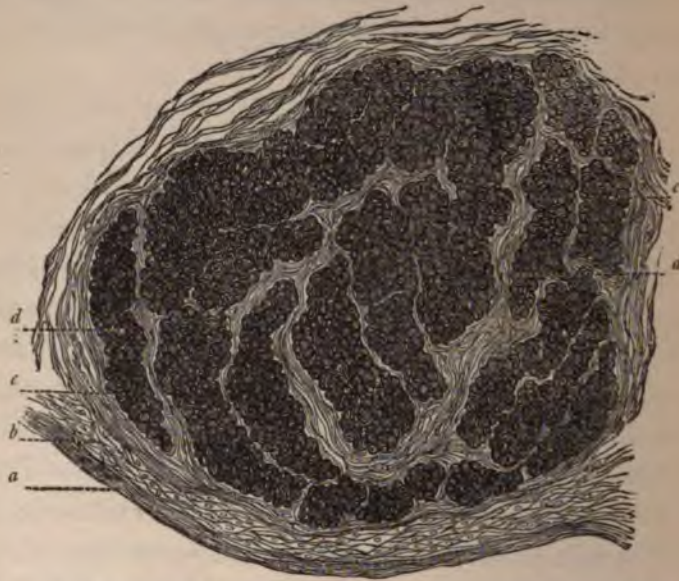


Fig. 43—Section of milium from the eyelid (NEUMANN). *a*, horny layer of the epidermis; *b*, rete Malpighii; *c*, wall of the follicle; *d*, sebaceous contents.

The *treatment* of these little affairs is very simple, and consists in slitting them with a lancet-point and squeezing out their contents. A drop of the tincture of iodine applied to the follicle will often excite sufficient inflammation to obliterate the gland, and prevent the formation of a fresh accumulation at the same place. I know of nothing which has any preventive control over the affection.

ACNE SIMPLEX.

This variety consists in a slight inflammation of the sebaceous follicles, sometimes accompanied with the formation

of pus. It is recognized by the occurrence of red, elevated papules, in many of which the inflammation may have gone on to suppuration, evidenced by the appearance of a whitish head or point upon the papule, or the whole papule may change into a pustule. The pus in time discharges, and the papule disappears, leaving the follicle comparatively uninjured, and liable to again inflame in the same manner. These papulo-pustules may be few and scattered, or exceedingly numerous. The integument between them may, but usually does not, partake of the same inflammatory action. The favorite seats of this variety are the forehead, temples, cheeks, chin, shoulders and chest. It is rarely found in other parts.¹ Scattered among the papules and pustules will usually be found some of the black points of *Acne punctata*.

Acne simplex is, like the previous varieties, an especial appanage of youth and has received the cognomen of *juvenilis*.

TREATMENT.—The first indication is to ascertain, and remove if possible, the cause, searching well into the digestive and sexual systems for any source of irritation which may be present, and adapting hygienic and other remedies accordingly. *Externally* we should endeavor first to relieve the inflammation and congestion by appropriate measures. This may be accomplished by passing the point of a lancet into all the pustules, and evacuating their contents by a little pressure. This contents will usually be found to con-

¹ The only lesions which are likely to be mistaken for *Acne simplex*, are a papulo-pustular syphilide, "tar-acne" and bromic acne. The first is usually generalized, and accompanied with a syphilitic history. The second is characterized by little black specks of tar in each of the pustules, and is produced by too free use of this agent as an external application. The third sometimes results from the ingestion of bromide of potassium, and is usually generalized.

sist of pus with a little whitish mass of sebum of somewhat firm consistency. Even the papules should in like manner be pricked. After this, fomentations of hot water for fifteen or twenty minutes several times a day will greatly hasten resolution. The habitual use of soap when washing the face should also be recommended. If these measures do not suffice, and they very frequently will not, it will be necessary to have recourse to something else. Among the milder applications the following will be found very useful:

R

Sulph. sublimat.

Alcohol

Tr. lavendul. co.

Glycerini

Aq. camphor āā 3j

M.

This lotion should be applied as frequently as may be convenient, and its use persisted in for several weeks. At the same time all comedons should be extracted, as the accumulation of sebum in the follicles is undoubtedly one of the exciting causes of their inflammation. At best, however, the treatment of *Acne simplex* is far from being satisfactory.

ACNE INDURATA.

This form is really an exaggeration of the preceding, but commonly comes later in life. The papules are much larger, and many of them in fact may with propriety be called tubercles. In two or three days a point of pus may be visible upon their summits. This collection of pus enlarges, and may involve the whole papule before breaking, or on the other hand, the suppuration may commence at

the centre of the tubercle, and give evidence of its presence by a sense of obscure fluctuation several days before it is visible to the eye. After the pus has found an exit it usually leaves after it a small indurated nodule which gradually subsides in from one to three weeks. When the tubercles are large, and the suppuration extensive, the destruction of the tissues sometimes results in the formation of a small scar. These tubercles of *Acne indurata* are usually accompanied with smaller papules of *Acne simplex* and in most cases we will find every gradation in size from the smallest to the largest. The papules and tubercles may be few in number, or exceedingly abundant, and the skin between them may be healthy, or on the other hand, congested, inflamed and thickened. As a rule the larger and more numerous the tubercles, the more the intervening skin is involved. The principal, in fact, exclusive seats of this affection are the same as those of *A. simplex*. It has no definite course, but frequently, when unchecked, persists for years.

TREATMENT.—In the first place vigorous search should be made for the predisposing causes of the affection, and when discovered they should be removed if possible, for upon this depend all hopes of a permanent cure. External applications, however, are of great service. In the first place, freely incise all papules and pustules, then relieve the acuteness of the inflammation by the use of hot fomentations for a few days, and then make several nightly vigorous applications of green soap. The soap if freely applied, excites a certain amount of irritation and some inflammation, and after a few days' use the face will look worse than it did before. When sufficient reaction has been induced, the soap is omitted, and the sulphur lotion

just mentioned (p. 228) is substituted for it. The artificial inflammation will subside in a few days, and carry with it much of the pre-existing induration, and give the skin a much smoother appearance. The course of green soap is then to be repeated several times until the face finally becomes smooth. A good deal of redness remains for a time after the discontinuance of the soap, together with a certain tendency to desquamation. This gradually subsides, but its disappearance may be hastened by the use of the sulphur lotion. Strange as it may appear, the worst cases of Acne are generally the ones which respond best to treatment, and it is the milder cases of *A. simplex* and *punctata*, whose treatment is the least satisfactory.

CHAPTER. XIX.

ROSACEA.

This affection is usually classed with acne, and considered a variety of that affection, and is frequently called *Acne rosacea*, or sometimes *Gutta Rosea*. The first of these appellations is not philosophical, under the definition of acne that we have given, namely, an affection of the sebaceous glands; as Rosacea is not essentially an affection of these glands, but of other tissues, and the glands, when involved, only become so secondarily and accidentally. The affection under consideration presents three varieties, or more properly stages, which for convenience may be termed *simple* or *congestive*, *varicose* and *hypertrophic* Rosacea.

Rosacea in its early stages consists simply in a reddened or erythematous condition of the integument of the tip or alæ of the nose, sometimes accompanied with a similar condition of the cheeks; or it may exist upon the cheeks alone, but less frequently than upon the nose alone. The redness may not be uniformly distributed over the affected parts, but consists of small reddened spots (*guttæ*), with intervening skin of normal color. Gradually the area of redness increases by enlargement of the size of the "drops," and increase in the area affected, until finally the greater part of the nose is the seat of a diffuse erythema, not of a

bright inflammatory red, but rather of a livid or venous hue, especially noticeable when the part has been exposed to the cold. This process does not take place with rapidity, but, on the contrary, in the great majority of cases with very great slowness, requiring months and not infrequently years for its development. In this condition it may persist indefinitely, but more frequently passes on to the next stage, which is characterized by the appearance of minute blood-vessels upon the surface. As the affection progresses, they increase in size, both in length and breadth, and frequently become tortuous and varicose. At the same time the integument itself thickens, and occasional pustules arise. These are generally seated in the glands and are in reality an acne, secondary to the Rosacea. They are rarely, however, a prominent feature of the affection, and should be regarded as accidental complications due to the extension of the morbid action from the surrounding tissues to the glands. This second, or varicose stage of Rosacea is, like the first, of slow development, often requiring years, but still progressing with slow but steady step. In this condition the affection may remain indefinitely, and, in fact, may never go beyond it. In some cases, however, more frequently in men than in women, the morbid action may continue, and result in very great thickening of the integument, until it eventuates in excessive hypertrophy and deformation of the nose. This thickening and hypertrophy may be uniform or, more frequently, somewhat irregular, budding out in different places into rounded elevations or tubercles. These are not proper acne tubercles but projections of the general integumentary tissue, including, of course, many glands, which, however, may not be sensibly altered, though they sometimes appear to be increased in size,

with orifices larger and more patent than usual. Enlarged and tortuous veins which characterized the second stage are still present in this, but the red color so prominent in the first stage and also in the second, in many cases disappears in great measure as the hypertrophic changes advance. HEBRA says that this third or hypertrophic stage occurs only in men and that the disease never advances to this degree in women.¹ This is an error. Although much less frequent in women than in men, it does sometimes occur, as I have myself seen, and as will be found recorded in the *Revue Photographique des Hôpitaux*, January, 1874. This later instance is one of very excessive hypertrophy.

Rosacea sometimes occurs in youth. That is, from the eighteenth to the twenty-fifth year, but, as a rule, does not appear until much later, and rarely if ever becomes at all prominent until middle, or more advanced life.

HISTOLOGY.—The histological processes in *Rosacea* are probably the same as occur in chronic congestive and inflammatory states elsewhere. In the third stage, which alone I have had an opportunity of examining microscopically, I have found great thickening of the corium, with development of new connective tissue, and enlargement of the blood-vessels, principally the veins. The sebaceous glands were many of them enlarged, sharing with the other elements of the skin the common hypertrophic tendencies, *vide* Plate III. They did not appear, however, to have undergone any qualitative changes, with the exception that some of them were filled with impacted sebum. Small-cell infiltration occurred to a limited extent along the course of the vessels.

¹ Op. cit. B. I. S. 543: "Die Frauen tragen immer jene Form der Kupferrase, die wir als den ersten Grad der Krankheit bezeichneten," u. s. w.

In a specimen from a case of excessive enlargement referred to me by Dr. C. WAGNER for microscopical examination, in which the portions removed weighed about 440 grains, I found the following changes: The stratum corneum was exceedingly scant, consisting at most of but one or two layers, and in some parts entirely absent. The stratum Malpighii was very thick, with mostly large and well-formed cells. In some parts, however, the nuclei were shrunken and deformed, or entirely absent, leaving vacuoles. The papillæ were enlarged in length and breadth, and contained many round and fusiform cells. The sebaceous glands were not much altered except that the nuclei of the cells were indistinct, and did not imbibe carmine readily. In many cases the nuclei were shriveled or absent. The margins of the cells were irregular. Some of the glands were normal, but the others were undergoing degenerative, not hyperplastic changes. The derma was very greatly thickened, but presented the aspect of an adult tissue, and not one in the course of formation. There were a few round and spindle cells, but immature connective tissue was not seen. The lesion, on the whole, appeared to be a pure hypertrophy of the dermal connective tissue, manifested by an increase in the number, but not in the size of its elements, with degeneration of the glands, probably from pressure.

ETIOLOGY.—The causes of Rosacea are both external and internal, the latter, however, being the most frequent and prominent. Anything which tends to increase the circulation in the face is influential in the production of the malady. Thus, repeated exposures to cold, etc., establish a reactive congestion which may not subside before a fresh exposure aggravates the trouble; but it is probable that in

these cases the cold is only the exciting cause, and would be unable to provoke the affection in the absence of pre-disposing tendencies. Among the internal causes which influence the facial circulation, gastric and uterine derangements are certainly the most powerful. HEBRA recognizes but two prominent causes of Rosacea, to wit, excessive spirituous indulgence, and functional or organic disease of the uterus or ovaries. As regards the first, he states that the light acid and aromatic wines of the Rhine, are in this respect, more noxious than the stronger wines, or even distilled spirits. The trouble, however, is not, in men, to be exclusively attributed to the use of fermented or distilled liquors, as we frequently meet with cases among strict abstainers, nor is it to the direct influence of the alcohol upon the skin, but rather to a reflection from the digestive apparatus, which has been disordered by habitual use of spirits, that the trouble must be referred.

In females digestive derangements likewise play an important part in the production of Rosacea, but unquestionably uterine or ovarian disturbances are more frequently the source of the trouble. Upon this point HEBRA expresses himself very decidedly: "Researches made with care have demonstrated that women, young or old, who are afflicted with acne rosacea usually suffer from menstrual troubles;" the menses "are not invariably suppressed or scanty, but on the contrary may be excessive or too frequent." The fact, however, that the uterine difficulty co-exists with the cutaneous, does not necessarily imply that it stands in a direct causative relation to it, as both may depend on some anterior, and perhaps more obscure morbid condition. In many cases again, in both men and women, it is impossible to discover any impairment of health what-

ever, or any external influences to which to attribute the affection.

TREATMENT.—The treatment of Rosacea is both general and local. The general treatment involves, in the first place, the removal if possible of any discoverable cause which may be found existing, and the avoidance of all influences which tend to excite or keep up the trouble; attention to diet, habits, and general hygiene being of the first importance. The *local* treatment varies with the stage of eruption and condition of the parts. In the first stage I have had the most success when pursuing the plan recommended by HEBRA. This consists in the use of green soap, or alkaline soap-spirit followed by a sulphur lotion as already described in connection with the treatment of acne.

In the second stage when the veins have become enlarged and varicose, they should be destroyed by lancet-punctures, or the introduction of needles coated with nitrate of silver, together with the soap frictions, etc. In the third stage when the hypertrophy of the skin is excessive we may obtain very decided shrinkage by the use of the constant galvanic current, the two rheophores being placed upon opposite sides of the nose, and a strong current allowed to pass for ten minutes every two or three days. I have never succeeded in completely removing the hypertrophy by this means, but in every case in which it was employed there was notable improvement.

CHEADLE (*Practitioner*, July, 1874) reports that he has derived benefit from the use of Faradic current.

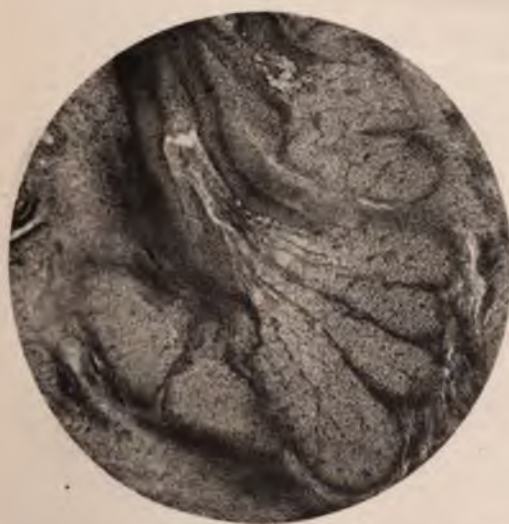
As a last resort we may excise a portion of the redundant integument, an operation which has been frequently performed by others, and once by myself.

PLATE III.

To face page 236.

PLATE III—*Fig. 1.*—Section of Rosacea of the nose, showing hyperplasia of the corium, enlarged vessels and portions of several sebaceous glands. $\times 12$.

PLATE III—*Fig. 2.*—One of the glands from the above more highly magnified. $\times 80$.



PIFFARD, PHOTO.

E. BIERSTADT, ALBERTYPE.

CHAPTER XX

URTICARIA.

Urticaria is an affection usually characterized by the sudden development upon the skin of white or red elevations called *wheals*, accompanied with pruritus. Its name is derived from the fact that the eruption resembles that produced by contact with the stinging nettle (*Urtica Urens*).

In some cases, sensations of heat and itching precede the appearance of any lesion upon the skin, but the rubbing and scratching to which they give rise speedily induce it. The number of the wheals varies. In some cases but three or four are present at a time, while in others they may be very abundant. The eruption having appeared, its duration is not constant. Sometimes the elevations last a few minutes only, or they may persist for several hours, at the end of which time they may disappear as rapidly as they came. Later in the day, or upon the next day, a renewal of the eruption occurs, and these renewals may occur a few times only, or may be a daily phenomenon for months. In this latter case the term *Chronic* is applied.

The eruption, when simple or uncomplicated, disappears without leaving any mark or scar, except such as are produced by scratching. These "scratch-marks" may be the

only visible evidence of cutaneous trouble which the patient may be able to offer for your inspection. The diagnosis must then be based upon the history, assisted by the fact that sometimes, in the absence of the peculiar eruption, it may be induced at will by freely rubbing or irritating the skin. If the finger nail or point of a pencil be drawn with firm pressure over the surface it is often followed by the appearance of a white line, soon becoming elevated and red, which persists a short time and then disappears.

Sometimes the eruption of wheals is preceded for a day or two by considerable œdema of the skin, especially about the face, hands, wrists, feet and ankles, accompanied with pruritus. The nature of this œdema may not at first be recognized, but it usually subsides in a day or two, and is replaced by the characteristic elevations. This form is termed *œdematous urticaria*.

In some cases, the eruption is complicated by the effusion of blood into the wheals, giving rise to an *urticaria purpurea* or *hemorrhagica*, sometimes incorrectly called *purpura urticans*. Upon the subsidence of the wheals the purple stains remain until the effused blood is absorbed. Constitutional symptoms, characterized by high febrile action, sometimes accompany attacks of acute urticaria.

HISTOLOGY.—As far as I am aware, no microscopical examination of the wheals has ever been made. Various conjectures, however, as to the nature of the intimate changes in and about them have been offered, but none of them are supported by sufficient proof to warrant their acceptance.

ETIOLOGY.—The causes which lead to the development of Urticaria are frequently obscure, but, in the majority of cases, gastric or uterine irritation is present. Upon this

point most writers agree. Acute Urticaria in those predisposed to it, is apt to follow the ingestion of certain articles of diet. Different cases present special peculiarities in this respect, but crabs, lobsters and mollusks have most frequently been found to be the offending agents. In chronic cases the difficulty of ascertaining the cause of the eruption is often very great. In many patients the uterine, ovarian and digestive apparatus are in perfect order, and careful supervision of the diet fails to reveal the exciting cause.

TREATMENT.—The treatment of Acute Urticaria *ab ingestis* is very simple, and consists in removing from the body, by emetic or purge, the offending substances. In Chronic Urticaria, however, the treatment is by no means so satisfactory. If the causes can be discovered and removed, this must, of course, be done as soon as possible, and their removal will usually be followed by the disappearance of the malady, but if we cannot ascertain them, we will be forced to a tentative exhibition of neurotics, anti-pruritics, tonics and the like. Electricity, from which, at first thought, we might expect to obtain benefit, has utterly failed in my hands to afford relief in certain obscure and obstinate cases in which it has been tried. The Turkish bath, however, has proved efficacious where everything else has failed. On the whole, the treatment of Chronic Urticaria is very unsatisfactory.

N.B. Dilute nitric acid - acts like a charm in some chronic ca

Case I. Had some young lady greatly annoyed by appearances of urtica on arms neck &c. when preparing for parties &c. - great annoyance for several months - Very quickly, cured by Nitric Acid - R. Wilson

Case II. (patient Dr. Robt. Allen) Had myself an acute attack of urticaria on chest - thighs & shoulders & neck - Had examined urine the previous day & found nothing abnormal - during the second day of attack urine contained great quantity of uric acid crystals - (Surg. Op. Book I. p. 92). The attack followed the eating of a large quantity of pleasant nuts -

CHAPTER XXI.

ZOSTER.

Zoster, also called Herpes Zoster and Zona, is an affection characterized by the appearance of groups of large vesicles, usually situated upon one side of the chest along the course of one of the intercostal nerves. The fact of its frequent appearance in this situation has given it the name it bears. The affection, however, may develop elsewhere, and appear in connection with the principal nerve-trunks of the limbs, face and scalp.

The eruption may consist of a single group or patch of vesicles,¹ or there may be several patches with healthy skin intervening arranged along the course of the affected nerve. Each patch consists of from two to twenty vesicles situated upon a reddened, raised and inflamed base, but sometimes the skin is only raised and red, and without vesicles. The eruption is almost invariably unilateral, cases of double Zoster being exceedingly rare. As a rule the affection, like the eruptive fevers, occurs but once during the lifetime of the patient.²

The vesicles themselves are usually filled with a clear serous, but sometimes turbid fluid, and (if the vesicles are

¹ In the older books this form was called Herpes phlyctenodes.

² KAPOSI has recently reported (*Wien. Med. Wochens.*, No. 33, 1875), a remarkable instance in which the affection appeared four times in the same patient.

not broken mechanically), persists for a week or ten days, at the end of which time absorption of their contents occurs, and is completed in a few days more, and nothing remains but flat scales which in time drop off, leaving small red or purplish spots which, in turn, disappear. Usually the eruption is quite superficial, and involves little more than the stratum corneum and rete, but occasionally the lesion is deeper and invades the corium. In these cases the vesicles may give rise to ulcers, and be followed by cicatrices. In the place of clear serum the vesicles may contain pus or blood, and in aged, feeble and cachectic individuals, rupture easily, and result in extensive and even phagedenic ulceration. When the eruption occurs in the neighborhood of the eye (ophthalmic zoster), destructive ulceration of the cornea may ensue.

SYMPTOMS.—Zoster may be ushered in by febrile symptoms, usually mild, sometimes severe, or it may appear upon the decline of some other affection. The most characteristic subjective phenomenon, however, is neuralgia of the nerve along whose course the eruption is developed. The pain may precede the eruption, accompany it, and persist for a variable period after its decline. It is usually mild, but in some cases is very severe. Occasionally it is entirely absent. As a rule the neuralgia disappears shortly after the desiccation of the vesicles, but in some cases lasts for many months, or it may be replaced by a distressing pruritus localized in the parts which have been affected by the eruption.

PROGNOSIS.—The *prognosis* is almost invariably favorable, except in very aged persons, in whom serious ulceration has sometimes led to a fatal result (HARDY). The intract-

able neuralgia, in some cases, is a disagreeable though not dangerous sequela.

HISTOLOGY.—The morbid anatomy of Zoster embraces the changes which take place at the seat of the eruption, and secondly, those which occur elsewhere. The former

Fig. 44.



Fig. 44—Perpendicular section of a Zoster vesicle (HAIGHT). *a*, thick string composed of spindle-shaped epithelial cells; *b*, thinner strings; *b'*, cells with several prolongations.

have been specially studied by BIESIADECKI¹ and HAIGHT.² According to these observers the vesicle of Zoster consists

¹ Sitzungsab. der Wien. Akad., 1867. ² *Ibid*, 1868.

of a chambered compartment, formed by a separation of the stratum corneum and upper layer of the rete from the lower layer, the interval being filled with effusion. The roof and floor of the vesicle, are however, connected by bands or strings of elongated fusiform cells, the thicker strings springing from the portions of the rete lying between the papillæ. The papillæ themselves are enlarged and infiltrated with small round cells, and the corium beneath is likewise somewhat infiltrated, and the capillary vessels enlarged. The nerves, seen in transverse section, were found to be swollen and surrounded by infiltration, the medullary substance softened, and the axis cylinder eccentric.

In fatal cases, alterations about the ganglia and roots of the affected nerves have been found and studied by several observers.

ETIOLOGY.—In all probability, the eruption of Zoster is dependent upon irritation or lesion of the nerve during some part of its course, but what this lesion is, cannot in all cases be determined; its primary cause is entirely unknown.

TREATMENT.—The principal indications for treatment in Zoster, are to protect the vesicles from rupture, and second, to relieve the neuralgia. The first may be accomplished by smearing the seat of the eruption with oil, and then covering it with a thick layer of some inert powder, a very good formula for this purpose being the following

R		
	Zinci oxidi,	3iv
	Pulv. Amyli,	
	Pulv. Lycopodii,	āā 3vj
M.		

to which ten grains of opium, or two of morphine may be added. Instead of using the powder, we may cover the vesicles with several coats of collodion containing a little morphine. Under the protection of these coverings the vesicles go through their normal stages more quickly and pleasantly, than if permitted to rupture, as the exposed corium is tender and painful upon the slightest friction of the clothing.

The *neuralgia* of Zoster is to be treated upon general principles, and exactly the same as if unaccompanied by eruption. If it is specially obstinate, counter-irritation along the spine, near the roots of the affected nerves will sometimes prove of service.

CHAPTER XXII.

HERPES.

Under the general name of *Herpes* most writers describe a variety of affections, many of which are quite distinct, and unrelated in any way to each other. This seems to me a very unphilosophical practice, and one calculated to confuse rather than aid the student. I shall therefore confine the term to a single affection, premising that its several varieties receive special names according to the locations which are affected.

Herpes labialis, preputialis, vulvaris, etc., are affections characterized by the appearance of vesicles upon a reddened and slightly inflamed base, and situated upon the parts indicated by their titles. The vesicles are of medium size, being larger than those of eczema, but smaller than the vesicles of zoster. The eruption upon the lips may occur upon either the upper or the lower, and upon the integumentary surface, or near the red border, often near the angles of the mouth. The eruption is frequently bilateral, and may affect the same patient any number of times. The vesicles usually rupture upon the second or third day, and if their contents, usually clear serum, is not wiped away, it dries into a thin translucent scale or scab. This scale remains attached for a day or two longer, then drops off, leaving a slightly reddish mark which soon disappears.

The same condition of things is met with upon the male and female genitals, but when it invades the mucous membrane of these organs, the duration of the vesicles is still more ephemeral. The epithelium very quickly ruptures, and if there be any lack of cleanliness, small superficial ulcerations result. These, if neglected, may become larger and confluent, and be mistaken for ulcers of venereal origin, an error not infrequently committed by the inexperienced.

A peculiarity connected with Herpes of the male genitals, is the fact that in some persons it is apt to recur, with annoying frequency, constituting a *relapsing herpes*, to which attention has been specially directed by DORON.¹ I am not aware, however, that this tendency to relapse is of frequent occurrence in connection with the female organs.

The nature of these different varieties of Herpes is by no means clear, but it is probable that they are due to nervous irritation of peripheral origin, and, if so, properly fall into the category of reflex affections.

By most authorities they are classed with zoster as varieties of one disease. This seems to me clearly an error, and for the following reasons:

ZOSTER	HERPES
Is unilateral, (with very rare exceptions).	Is frequently bilateral.
Occurs but once, (with rare exceptions).	May attack frequently.
Neuralgic pain in the course of the affected nerve.	Pain not neuralgic but of a burning or itching character.
Vesicles large.	Vesicles small.
Fluid often opaque.	Fluid usually transparent.

¹ L'Herpes recidivante, Paris, 1868.

Vesicles often persist until the fluid is absorbed.	Vesicles usually rupture in a day or two.
Duration from two to four weeks.	Duration from four to ten days.
Lesion often extends to the corium.	Lesion superficial
Often leaves cicatrices.	Never leaves cicatrices.

PROGNOSIS.—Always good. It is a trivial affection, except when it assumes the relapsing form about the genitals, in which case it is a source of great annoyance to those having much use for these organs.

HISTOLOGY.—Unknown.

TREATMENT.—The treatment of all the different varieties is exceedingly simple. The herpes about the mouth rarely requires any treatment whatever; at most the application of a little absorbent powder. The eruption about the genitals, however, should be well dusted with powder, and, if it affects surfaces which are in contact, they should be separated by pieces of linen. If ulceration has occurred through lack of cleanliness, or from any other cause, the addition of a mild astringent, such as a five or ten-grain solution of sulphate of zinc or copper, or nitrate of silver will prove of service. The tendency to relapse, however, must be broken up if possible. This is often difficult of accomplishment. I have, however, been able to control it in some instances by the exhibition of quinine in full doses.

CHAPTER XXIII.

XANTHOMA.

This name is applied to an affection first described by RAYER¹ under the name of "*Plaques jaunâtres des paupières*;" subsequently more fully noticed by ADDISON and GULL² under the name of *Vitiligoidea*, by WILSON³ under the designation of *Xanthelasma*, and still more recently by SMITH,⁴ who proposed the title here adopted.

The affection consists in the appearance of yellowish spots upon the eyelids, which usually first show themselves upon the upper lid, near the inner canthus and upon the *left* side (HUTCHINSON).⁵ The first spot, at the beginning small, gradually increases in size, and others make their appearance in the neighborhood, or upon the eyelid of the other side, exhibiting a certain tendency to symmetry. Later they develop upon the lower lid, and beneath it upon the cheek and nose. It is also, more rarely, found upon the hands, feet (SMITH), penis (KAROSI) and other parts of the body. Personally, I have seen it only about the eyes and once upon the cheek. It has also been en-

¹ *Traité des Maladies de la peau*, 2d ed., Paris, 1835.

² *Guy's Hospital Report*, 1851.

³ *Journal of Cutaneous Medicine*, vol. I., 1867.

⁴ *Journal of Cutaneous Medicine*, vol. III., 1869.

⁵ *Med. Chir. Trans.*, vol. LIV.

countered upon the mucous membranes of the mouth (SMITH). Coexistent with these lesions, yellow spots resembling them have been found upon the mucous membrane of the larynx, the lining membranes of the heart and blood-vessels (FAGGE), the mucous lining of the hepatic ducts, and the surface of the spleen (PYE-SMITH) and the sides of the tongue (LEGG).¹

These yellow patches present two distinct forms: first, the *macular*, in which the yellow patch does not project above the surrounding surface, and may even be depressed beneath it; and second, the *tubercular*, in which there is a slight prominence of the patch. These two forms appear to be in reality varieties of the same affection, insomuch as they frequently coexist, and the macular form may become tuberculated at its borders (KAPOSI). I strongly suspect that the elevated patches may undergo involution, and result in the depressions which I have observed, although KAPOSI states that after the development of the lesion no changes, other than those of size, ever occur.

Xanthoma causes very little inconvenience to the patient, other than the unsightly appearance which it produces, and occasional interference, when large, with the motions of the eyelids. In SMITH's case the patches upon the hands and feet were painful upon pressure, and impeded somewhat the functions of the parts.

The affection once developed lasts for life unless remedied by operative procedures. It is very much more frequent in women than in men.

HISTOLOGY.—The accounts given by different observers concerning the histology of Xanthoma are somewhat discordant. SMITH found upon microscopical examination of

¹ Note to the Eng. translation of HEBRA, vol. III., p. 347.

one of the patches upon the hands, that "the cuticle was hypertrophied to nearly twice the thickness of that covering the adjacent skin. The rete mucosum was hypertrophied to about the same extent, and was stained with a yellow coloring matter soluble in ether. The corium also hypertrophied made up the rest of the tumor. The corium was densely corpusculated; the corpuscles of irregular shape and size, non-nucleated,* apparently consisting of connective-tissue germs; but on soaking the tissue in ether about half of them disappeared, still leaving a great number of irregularly-shaped granules in the meshes of the areolar fibres." PERCY¹ and most subsequent observers including WALDEYER² and VIRCHOW³ have found the morbid growth to consist in a hyperplasia of connective tissues with localized fatty deposits. The connective-tissue corpuscles were increased in number, and of a yellow color. The color was due to the deposition of fat, sometimes granular, in the cells, at other times in the form of large yellow glistening globules between the fibres. More recently GEBER and SIMON⁴ have had an opportunity of examining specimens from two cases of Xanthoma. They failed to recognize the appearances just described, but instead found interspersed among the connective tissue of the corium, nests or collections of large yellow epithelial cells possessing the characters which pertain to the enchymatous cells of the sebaceous glands. Some of these collections were isolated, but others were in close connection with the glands, which were also found more or less hypertrophied. These authors conclude that the macular xanthomata consist essentially in a hyperplasia of sebaceous gland cells.

¹ Guy's Hospital Report, 1866.

² VIRCHOW'S Archiv., B. LII., S. 318. ³ *Ibid.*, S. 504.

⁴ Arch. f. Derm. u. Syph., B. IV., S. 305.

It is evident, therefore, that all cases of Xanthoma do not present identical histological appearances, and it is quite possible that two or more really different affections, possessing a superficial resemblance to each other, have been described under the same name.

ETIOLOGY.—Of the four cases reported by ADDISON and GULL, three were found to be associated with hepatic disorder, and one with diabetes, which led these writers to remark: "The connection of this affection with hepatic derangement is obvious, and the exception which occurred in diabetes is of the more interest, insomuch as modern pathology points to the liver as the faulty organ in this disease." SMITH reviewing his own and other recorded cases says: "One thing is evident, that some morbid relation exists between this form of skin disease and some morbid condition of the liver." *Per contra* WILSON¹ says: "We have seen more than fifty examples of the affection, but in no instance had any disease of the liver existed previously or at the time of our observation. Therefore, we hold that the supposed relation between Xanthelasma and disease of the liver will not be corroborated by future investigation."² HUTCHINSON found that the liver had been affected in several of his cases and that a very large proportion of them suffered from sick-headaches. KAPOSI finds in thirty cases which he has collected that jaundice had occurred in fifteen. In three patients examined by myself during the past year, one had been jaundiced several years before,—one stated that, he was "always rather bilious" and the third had

¹ Jour. of Cut. Med., vol. II., 1868, p. 212.

² WILSON appears to have modified his views of late as he writes (Lectures upon Dermatology, p. 88, London, 1875) that Xanthoma is "most frequently met with in persons of mature age; in fact, at the age when the liver is apt to make itself felt in the pursuit of its daily functions."

suffered for many years from paludal poisoning. In four autopsies of xanthomic patients, the only ones I find recorded (by MURCHISON, MOXON,¹ FAGGE and PYE-SMITH²) the liver was found affected in all. These facts warrant the probability that Xanthoma is in some way connected with internal disease, though the precise nature of it yet remains to be determined.

PROGNOSIS.—Xanthoma once developed persists for life, but does not appear of itself to influence in any way the general health.

TREATMENT.—The object of treatment is simply to remove the deformity. The best way of effecting this is by excision, provided the lesion is so situated and of such size that its removal will not result in ectropium. Applications with a view to procuring absorption, etc., are futile, and caustics are less desirable than the knife.

¹ Trans. of the Pathological Soc. of London, vol. XX. ² *Ibid*, vol. XXIV.

CHAPTER XXIV.

CHLOASMA.

Chloasma is a designation which has been applied somewhat loosely to all brownish or yellowish-brown discolorations of the skin, larger than freckles, by whatever cause produced. Some writers, as HEBRA,¹ confine the term to all those discolorations which are not due to the presence of a fungus; others again, include simply those which are produced by a cryptogam, excluding the non-parasitic. In this I shall follow the example of HEBRA, and restrict the term to the first class, leaving the cryptogamous discoloration (*Phytosis versicolor*) for later consideration.

HEBRA divides the non-parasitic Chloasmata into *idiopathic* and *symptomatic*. The idiopathic include those pigment deposits which are the result of external causes as, for instance, the pigmentations which occur in pruriginous affections as the result of scratching, or the stains which sometimes follow the application of a blister or a sinapism, or lastly, the discoloration of the surface commonly known as tanning, and due to exposure to the weather.

Symptomatic Chloasmata, however, are entirely different and are due to an internal cause. The most important of these is the so-called *Chloasma uterinum*

¹ Journal of Cut. Med., vol. I.

This affection appears as a brownish discoloration of the forehead, temples, or cheeks, as a concomitant of pregnancy or uterine disorder. It may be limited in extent, and not very pronounced in color, or on the other hand may exhibit itself extensively and with a very dark hue. It may appear upon any one of the locations mentioned, or upon all of them. These stains are presumed to be of uterine origin, insomuch as they never appear before puberty, rarely occur except during pregnancy, or during the existence of some uterine or ovarian disease, and diminish or disappear with the removal of these conditions, and also after the permanent cessation of the menses.

This form of cutaneous discoloration is of course confined to females, and it is exceedingly rare to find anything similar in the male except in certain neurotic disorders. LOMBROSO¹ has directed special attention to a variety of symptomatic Chloasma which is met with in the insane, and found that in ninety cases of mental alienation there were thirty cases of Chloasma, bronze-colored or yellowish-brown patches as large as the hand, and nineteen cases of what he terms *ephelides*, which were smaller spots of a lighter color, and nineteen cases of a mixed form. The affection was comparatively more frequent in the male than in the female, and in many instances closely simulated Chloasma uterinum.

TREATMENT.—In the idiopathic forms, if they do not subside upon removal of the cause which excited them, there is little use in trying to get rid of them by local applications, as the pigmentary deposit upon which they depend seems to be located in the cells of the rete, and

¹ Giornale It. delle Mal. Ven. e delle Pelle.

pigment once deposited can, as a rule, be removed by mechanical means only and not by absorption.

In Chloasma uterinum, however, it is probable that the pigment deposit is more superficial and located among the cells of the stratum corneum.¹ We may therefore hope by removing the horny layer to remove with it the pigmentary deposit, or at least a portion, and by the termination of pregnancy, or relief of the uterine disorder, to prevent its re-formation.

There are a number of agents capable of destroying the superficial layers of the epidermis, and causing their exfoliation, as cantharides, mustard, iodine and corrosive sublimate, and any one of them might be used for the purpose, were it not that some of them are very apt to produce an idiopathic Chloasma which may last longer, and prove more disfiguring than the original affection. Of the epidermicides mentioned, corrosive sublimate is to be preferred as the least likely to produce these results. It should be used as a lotion, from five to ten grains to the ounce, applied two or three times a day, until the stratum corneum loosens. This may then be rubbed off with a damp towel, and is replaced by one less pigmented than before, or perhaps altogether normal. If necessary, the applications may be repeated, and the new horny layer removed by the same means. Concerning the treatment of the Chloasma of the insane I have no suggestions to offer.

¹ That this is sometimes the case I have determined microscopically, but whether it is always so I do not know.

CHAPTER XXV.

LOCAL AFFECTIONS.—SCABIES.

SCABIES or the ITCH *par excellence*, is an affection which has been known from the earliest times. In the Willanic classifications it is placed among the vesicular diseases, in consequence of the fact that, in the beginning, the affection is characterized by the development of little transparent, globular, non-umbilicated vesicles upon the skin, their favorite seat being the hands, and especially between the fingers. The development of these vesicles is accompanied with severe itching, and the parts affected are usually well scratched. This scratching of the diseased parts, and the subsequent scratching or handling of other portions of the integument, leads to the extension of the disease to them, and we find that, as a rule, the affection next invades the penis in the male, the breasts in the woman, and the feet in children, from which again it may extend to all other parts of the body, the anterior in preference to the posterior. The head and face, however, are rarely if ever affected.

In some cases, after a few days, in other cases later, certain secondary eruptions arise. These, as a rule, are papular and pustular forms of eczema, in those predisposed to this affection, scratch-marks and rather large, isolated, fre-

quently umbilicated pustules. In some cases furuncles and abscesses may form. In other words the eruption in an advanced case is usually polymorphous.

These are the lesions which are visible at first sight, and upon a superficial examination, but none of them are absolutely diagnostic, although the vesicles first alluded to are not, so far as I am aware, met with in any other affection. There is, however, another lesion which is pathognomonic, and, if detected, leaves no doubt as to the nature of the eruption. I allude to what is called the *cuniculus* or acarian burrow. This is a fine line, usually curved, rarely straight, of a grayish, sometimes whitish color, and sometimes mottled with black points. This line is generally from a quarter to half an inch in length, and can be detected only by close inspection, but more easily with the aid of a lens. It is usually found near the vesicles, sometimes upon their surface, but may be at a distance from them.

This characteristic lesion of scabies arises as follows: The female acarus, after impregnation, penetrates the epidermis, and burrows along underneath it, each day laying an egg or two, until a dozen or more have been deposited. The conformation of her body is such that she cannot readily back out of the burrow, but is compelled to advance, and usually does so in a curved direction, leaving in her track a line of eggs behind her, interspersed with little points of black excrement. After her ovulation is complete, she remains at the extremity of the burrow and dies, without again reaching the surface. In a few days the eggs hatch, and the young acari work their way to the surface. Here, after proper développement, they copulate, and the impregnated females dive down under the epidermis to breed a

fresh colony, and in this way prolong the disease indefinitely. It is these burrows which give the appearance of the fine lines just alluded to. The female acarus may be extracted from the cuniculus with a fine needle and a dextrous hand. The male insect never burrows, but remains upon the surface and is rarely detected.

Scabies, as may be supposed, is exceedingly contagious, and readily transmitted by too close intimacy with a person already affected, or by sleeping in an infected bed or wearing infected clothes. Ordinary handling, as in the examination of a patient, is not likely to give rise to it.

The pruritus in this affection may be mild, but is usually severe, and may be atrocious, and is usually worse at night, when the patient is warm in bed, as warmth seems to favor the activity of the insects.

ETIOLOGY.—The etiology of this affection is of particular interest, as few subjects in dermatology have given rise to so many heated discussions.

Under the terms Scabies and Psora, the ancients included eczema and perhaps the present affection, but this is by no means certain; and it was not until the time of the Arabian physicians that we have any precise or recognizable description of this disease. AVENZOAR, writing in the twelfth century, indicates the existence of an affection due to the presence of small animals, which "*sunt pedicelli subter manum, crurum et pedum cutem serpentes, et pustulas ibidem excitantes, aquâ plenas; tam parva animalcula, quam vix visu discerni valeant.*" This description pertains to no cutaneous affection now known so well as to the one under consideration, although HEBRA¹ suggests that it refers to phthei-

¹ Op. cit, p. 413.

riasis. GUY DE CHAULIAC,¹ BENEDICTUS,² FALLOPIUS³ give similar descriptions. JOUBERT⁴ writes: "*Sunt cyrones dicti, omnium minimi, semper sub epidermide latentes, sub qua serpent.*" MERCURIALIS,⁵ however, makes no mention of them, which is strange, as he must have been familiar with some of the writings just alluded to. MOUFFET,⁶ an English author, appears to have likewise observed the *acarus* in connection with the disease. Later HAUPTMANN, BORELLI and ETTMÜLLER examined the insect microscopically, and published some rather rude drawings of it. Still later, BONONIO⁷ gave a much more exact description and arrived at conclusions concerning the disease which are almost identical with those accepted at the present day. BAKER,⁸ an English microscopist, relates the discoveries of BONONIO so quaintly that I am tempted to quote from him *in extenso*: "The microscope has discovered, what without it could scarce have been imagined, that the Distemper we call the Itch, is owing to little Insects under the *Cuticula*, whose continual Bitings cause an ouzing of Serum from the *Cutis*, and produce those Pustules or watry Bladders whereby this Disease is known. This was found out by Dr. BONONIO, who observing that itchy People frequently pull out of their scabby Skin little Bladders of Water, with the Point of a Pin, and crack them on their Nails like Fleas, he determined to examine what these Bladders might really be. Wherefore picking

¹ Chirurgia magna.

² De re Medica, Venetiis, 1535.

³ Opera Omnia, Venetiis, 1584.

⁴ De affectibus pilorum et cutis, Genovæ, 1572.

⁵ De Morbis Cutaneis Tractatus, Venetiis, 1601.

⁶ Theatrum Insectorum, Londini, 1634.

⁷ Osservazione intorno pellicelli del corpo umano, Firenze, 1687.

⁸ The microscope made easy, 4th ed., Lond., 1754.

out with a fine Needle a little Pustule from a Place scabbed over, and where there was a severe Itching, he squeezed a thin Matter from it, and perceived a very small white Globule scarcely discernable, which, applying to the Microscope, he found to be a very *minute Animal*, in Shape resembling a Tortoise, of a whitish Colour, but darker on the Back than elsewhere, with some long and thick Hairs issuing from it, very nimble in its motion, having six Legs, a sharp Head, and two little Horns.

"This Experiment was repeated on itchy Persons of all Ages, Sexes and Complexions, and at all seasons of the Year, and he constantly found the same *Animalcules* in most of the watry Pustules; and though by reason of their Minuteness and Colour (which is the same as that of the Skin), it is difficult to discern these Creatures on the Surface of the Body, yet he sometimes saw them upon the joints of the Fingers in the little Furrows of the *Cuticula*, where they first begin to enter with their sharp Heads, gnawing and working in their Bodies, till they are got quite under the *Cuticula*, where they burrow from Place to Place, cause a troublesome and grievous Itching, and force the infected Person to scratch, which only serves to increase the malady; for, by breaking the little Pustules and some small Blood-Vessels, Scabs, crusty Sores, and such like foul Symptoms ensue; whilst these mischievous *Animalcules* escape the nails by their Minuteness, and disperse themselves the farther."

Although BONONIO's observations were first published in England in 1702¹ TURNER,² writing twenty years later, makes no allusion to them.

¹ Philosophical Transactions, vol. XXIII.

² A Treatise of Diseases incident to the Skin, London, 1723.

PLENCK,¹ in 1776, admitted the parasitic nature of Scabies, but LORRY a year later denied it, and WILLAN still later, denied it also.

In 1812, GALES,² an apothecary attached to the *Hôpital Saint-Louis*, announced that he had discovered the acarus, was believed by everybody, and the question was considered settled, until RASPAIL³ demonstrated that the acarus of GALES was simply a cheese-mite, and that GALES himself was an imposter. This turned the current of opinion in the opposite direction until finally, in 1834, RENUCCI,⁴ a medical student in Paris, demonstrated the presence of the insect so conclusively, that the parasitic nature of the affection has since then been universally admitted.

The itch insect, known as the *acarus scabiei* or *sarcoptes hominis*, though barely visible to the naked eye, may be readily recognized under the microscope, as a minute insect from one-fortieth to one-fiftieth of an inch in length. The body is ovoid and the head quite small. The female is larger than the male, and is provided with eight legs. The anterior four are provided with suckers and numerous hairs, the posterior four have no suckers, but to each is attached a specially long hair, with several shorter ones. Upon the belly are short triangular spines with their apices directed backward. The male likewise has eight legs, the anterior four and the posterior pair have suckers, while the other pair have long hairs as in the female; the triangular spines are absent. The young acarus has but six legs, four anteriorly and two posteriorly. For a fuller description

¹ See note to p. 125 of this book.

² *Essai sur le diagnostic de la Gale, etc.*, Paris, 1812.

³ *Mémoire comparatif sur l'histoire naturelle de l'insecte de la Gale*, Paris, 1834.

⁴ GRAS, *Recherches sur l'Acarus*, Paris, 1834.

of this insect the reader is referred to the works of KÜCHENMEISTER,¹ GUDDEN,² ZURN³ and the magnificent treatise of FÜRSTENBERG.⁴

TREATMENT.—The treatment of scabies is exceedingly simple, and when properly carried out is always successful. The indications are first, to destroy the insect, and second, to relieve the concomitant eruptions if they be sufficiently severe to require special treatment. Sulphur is the orthodox remedy for scabies, though many others have been recommended and are perhaps equally effectual. It should be used in the following manner: Put the patient into a warm bath, and let him soak for twenty minutes or half an hour, then let him be rubbed all over, except the face and head, with common soft soap and water, a scrubbing-brush being used if practicable. This will break open the furrows and expose the acari. Afterward rinse with clean water and dry the surface. Then rub in with strong friction a sufficiency of the following:

R

Potassii Iodidi 3j

Ungt. Sulphuris 3j

M.

The patient goes to bed and sleeps all night with the ointment upon him. In the morning he washes himself clean and puts on clean under-clothes. The clothing that he has worn before, and the bed-linen, should be disinfected by baking and thorough boiling. One such application is usually sufficient to destroy the insects and cure the disease, but if not, it may be repeated. Usually the secondary

¹ Parasiten, Leipzig, 1855.

² Parasiten bedingten Hautkrankheiten, Stuttgart, 1855.

³ Die Schmarotzer, Weimar, 1872.

⁴ Die Krätzmilben, Leipzig, 1861.

eruptions will subside spontaneously upon the removal of the cause which induced them, but if not, they must be treated upon general principles.

If there be a great deal of irritation of the skin, or diffuse inflammation as sometimes occurs, it is well to take measures for allaying it a few days in advance of the specific treatment, and to employ this latter is a somewhat milder way. ANDERSON¹ recommends the following:

R

Ol. Cadini

Sulph. precip. āā ʒiij

Glycerini Amyli ʒvj

Adipis Benzoati ʒiij

M.

as less irritating than the ordinary sulphur ointment.

¹ On the Parasitic Affections of the Skin, London, 1868.

CHAPTER XXVI.

PHTHEIRIASIS.

By Phtheiriasis we understand the affections produced by the phthirius or pediculus *capitis*, the *p. corporis* and the *p. pubis*, commonly known as the head louse, the body louse and the crab louse.

The nature and appearance of these insects are so well known, or can be so readily ascertained that it is hardly worth while to enter upon a description of them here. If the reader desires more than a superficial knowledge of them, however, he may consult the work of McCALL ANDERSON or the German works upon parasites referred to in the last chapter, except that of FÜRSTENBERG, which is confined to the description of acari.

These pediculi produce affections known respectively as *Phtheiriasis capitis*, *P. corporis* and *P. pubis*

PHTHEIRIASIS CAPITIS.

This affection has been sufficiently considered in connection with eczema (*q. v. p.* 150) and need not be dwelt upon further.

PHTHEIRIASIS CORPORIS.

This is a much more important affection than the last and deserves a more extended notice. The pediculus cor-

poris, having once effected a lodgment, makes its nest or habitation among the underclothes of the patient, and not beneath the skin, like the acari, nor upon the skin and among the hairs, as do the other species of pediculi. It seeks by preference points where the clothes are thrown in folds, and there lays its eggs. When hungry it promenades the surface of the skin and seeks a convenient spot for a repast. This is effected by the insertion of a long *haustellum* through the skin until it meets a capillary blood-vessel, from which it sucks up a sufficient supply of nourishment. If undisturbed, it feeds most leisurely, and until its abdominal cavity is fully distended, and even then it will not always stop, but sometimes reject *per anum* that which it has just taken, in order to make room for a fresh supply. Now this wandering of the insects over the surface and their continual bitings excite a certain amount of irritation and induce the patient to scratch. This he is apt to do quite freely, and, if there be any prominent and swollen papillæ or small papules upon the surface, and sometimes little papules form around the bites, they are very liable to be excoriated and a minute droplet of blood exudes and dries into a small black crust. These minute incrustations are rarely absent, and are to a certain extent pathognomonic of the affection. As the insects increase in numbers, the irritation likewise increases, and the pruritus becomes intense, keeping the patient busy with his nails the greater part of the time. A superficial scratching, however, will not commonly afford sufficient relief, and the unhappy sufferer tears the skin with his nails until he is a mass of bleeding excoriations. Under the influence of the continual irritation the skin darkens, and the body is found covered with lines and blotches more or less deeply pig-

mented. When the disease is severe upon the lower extremities, it is not unusual to find enlargement and tenderness of the inguinal glands.

This affection is by far the most frequent cause of severe pruritus, and if a patient with this symptom presents himself, the first suspicion should be that he is suffering from Phtheiriasis unless some other very evident cause¹ should be present, and it must be remembered that pediculi do not confine themselves to the poor and miserable, but sometimes are encountered among the better classes, and may exist for a long time before their presence is suspected. In all cases then of severe pruritus, search for the pediculus, and look for it not upon the patient's body, but among his clothes.

TREATMENT.—The indications are clear. Give the patient a warm bath with plenty of soap, and after drying let him be sponged over several times with *Tinct. Staphisagriae* and his clothes and bed-linen disinfected by boiling, baking or sulphur fumigations.

PHTHEIRIASIS PUBIS.

This affection is due to the *pediculus pubis*, an insect whose preference seems to be for the hairy parts of this region. It is not, however, confined to this locality, but may take up its abode among the hairs of the limbs, breast, axillæ, whiskers and eyebrows, in fact, wherever there is hair, except the head. The insect derives its nourishment from the skin to which it is usually found strongly adhering. It lays its eggs among the hairs to which it attaches them in the same manner as the *p. capitis*.

The *p. pubis* does not usually cause much irritation or

¹ For the various causes of pruritus see chap. iv., p. 33.

pruritus, and its presence is frequently discovered by the patient accidentally. The insect is usually transferred from one to another in sexual intercourse, but sometimes by wearing infected clothes, sleeping with an infected person or in a bed where one has slept, and probably also at the water-closet.

TREATMENT.—The usual treatment is to anoint the parts freely with *Ungt. Hydrarg.* repeating the inunction as often as may be necessary. The ointment kills all the live pediculi with which it comes in contact, but does not always destroy the eggs, which, hatching out, prolong the affection for some time. It is well, therefore, to search for the eggs among the hairs and to remove each affected hair with the scissors. When it can be conveniently done, shaving the affected parts, followed by one or two inunctions, is the most effectual plan that can be pursued. The clothes should be disinfected.

CHAPTER XXVII.

FAVUS.

Favus is an affection characterized at its commencement by the appearance of small white specks or points, usually upon the scalp. These specks in a few days increase in size, become yellower in color and umbilicated, forming small crusts, the umbilication being traversed by a hair, or if the hair be absent, will be found to correspond to the mouth of a hair follicle. The crusts gradually augment and project somewhat above the level of the skin. If one of them be removed, it will be found to have somewhat the form of a concavo-convex lens, its upper surface having a marked concavity surrounded by an elevated border. Its under surface is convex and the convexity will be found to correspond to a small depression in the skin from which it was removed. Other crusts appear in the neighborhood or scattered over different parts of the scalp, and gradually increase in size. Contiguous ones join by mutual extension so as to form a mass of considerable proportions mottled over with little depressions perforated by hairs. As the disease further advances, portions of the crusts drop off, carrying with them some of the hairs. Ultimately the crusts disappear, leaving a surface at first somewhat reddened but afterward white, dry,

atrophied and cicatricial in aspect and deprived of hair. The progress of the disease is extremely slow, and when uninterfered with by treatment, may last for ten or twenty years. The principal seat of the affection is in the hair follicles. These are gradually destroyed, and of course permanent baldness is the result. Favus of the scalp attacks children by preference, being but rarely found in adults as a recent affection. It is highly contagious and may be transferred directly from one to another, or by means of caps, brushes, etc. The affection is not confined exclusively to man, but appears to originate in the mouse. Cats who catch mice diseased in this manner become infected from them, and children playing with the cats contract in turn the disease from the latter.

Favus, however, is not limited to the scalp, but may appear upon any part of the body. When it occurs upon non-hairy parts, or more strictly upon parts furnished with but fine and rudimentary hairs, as the general surface, it commences as a small, red, very slightly raised spot. This enlarges and becomes a little scaly until it has reached a diameter of from half an inch to an inch. Upon this reddened patch small white points not larger than pin-heads appear. These increase in size and develop into the characteristic sulphur-yellow, umbilicated crusts. This epidermic Favus appears to attack adults as freely as children. The affection may also invade the nails.

Favus is usually accompanied with a certain amount of pruritus, rarely severe, which leads to scratching and the transfer of the disease from one part to another.

ETIOLOGY.—Until about thirty-five years ago Favus was considered a pustular eruption whose nature was extremely obscure. It was regarded as very intractable, if

not incurable. In 1838 SCHÖNLEIN¹ published the results of his investigations concerning the disease, and established the fact, now universally admitted,² that the affection was caused by the lodgment and development of a minute fungus upon the surface and within the hair follicles. This fungus has received the name of *Achorion Schönleinii*. It consists of round or ovoid spores about $\frac{1}{3000}$ of an inch in diameter, which may be isolated or joined together in chains of two or more, and of mycelial tubes, simple or branched, empty or containing spores. In addition a considerable amount of fine granular matter.

The spores penetrate deeply into the hair follicle; even to the bottom, where their further multiplication causes destruction of the hair-root and finally of the papilla. They sometimes invade the bulbous portion of the root itself, but rarely to any extent, and probably never involve the free portion of the shaft. When the growth has filled the follicle it appears at its orifice as the white speck already alluded to, and by still further increase constitutes the substance of the typical crust.

TREATMENT.—The treatment of Favus is simple, and, if properly carried out, effectual. Naturally, the indication is to destroy the parasite; and to accomplish this we may proceed as follows: In the first place remove the superficial crusts. This is effected mechanically by scraping them off with the point of a penknife or small spatula. As many of the crusts are quite firmly attached and their removal a little painful if attempted forcibly, it is well to loosen them previously, by the application of a poultice for a day or two, or a few frictions with oil. After the crusts

¹ MULLER'S Archiv., p. 82, 1838.

² Except by WILSON and CAZENAVE.

are all removed, the affected parts may be smeared with sulphur or turpeth ointment (20-30 grains to the ounce). This will destroy the parasite upon the surface, and so long as they are employed there will be no *appearance* of the disease and the case will seem to be cured. If they are stopped, however, under this supposition, the disease will in two or three weeks again become manifest and in a short time be in as bad a state as before treatment, due to the fact that the hair follicles still contain the spores in abundance. It is necessary, therefore, to dislodge them from these retreats. While the follicle is filled with a hair surrounded by a compact mass of fungus, it is of course impossible for any remedial agent to gain access to it. This necessitates removal of the hairs, which is readily accomplished with the aid of the epilation forceps (Fig. 34). If the disease be at all extensive, epilation of the entire surface at one sitting is generally impracticable. It is better to commence systematically, and remove *every* hair from a limited area, and when the patience of the surgeon or of the patient is exhausted, to desist from further epilation and to apply to the denuded spot some lotion or ointment for the purpose of destroying the spores *in situ*. For this purpose nothing is more convenient than a simple solution of bichloride of mercury (two or three grains to the ounce) thoroughly rubbed in. The hair follicles, being deprived of their hairs, permit the ready entrance of the solution, which, coming directly in contact with the spores, destroys them, or perhaps simply kills the epithelium, which, when exfoliated, carries with it the infiltrating spores. The following day another portion of the scalp is denuded and the lotion applied as before, to the portion just epilated as well as to the first. This procedure is repeated day

by day until the whole of the affected spots have been deprived of hair. If now *all* the hairs have been extracted and the lotion has been effective in destroying the intra-follicular fungus, of course the disease is at an end. This consummation, however, is rarely obtained so easily, as many hairs will have probably broken in the attempt at extraction, and their diseased roots be still left in the scalp. These of course would constitute new foci of disease. It is therefore necessary to continue the use of the lotions or ointments, until the broken hairs have grown to a sufficient length to permit of being grasped by the forceps. After a week or more, therefore, the epilation should be resumed and repeated a third or fourth time, if necessary. Finally, if the hairs which begin to grow present a healthy appearance, treatment may be suspended, but the patient must be kept under observation, and the first indications of relapse immediately taken in hand. If this treatment be carefully and correctly carried out, we may hope for a radical cure of the disease in from three to six months.

In Favus of the general surface, epilation is unnecessary, and in fact impossible, except the eruption be upon the chest or other specially hairy parts. All we need to do is to pick off the crusts, and make a few applications of the tincture of iodine.

When the disease attacks the nails, they should be gently scraped or filed down until the fungus is exposed, when the bichloride or the iodine may be applied.

CHAPTER XXVIII.

TRICHOPHYTOSIS.

Under this title I shall describe what are commonly spoken of as four separate affections denominated respectively Herpes or Tinea Tonsurans, Parasitic Mentagra or Sycosis, Herpes Circinatus or Tinea Circinata, and Eczema Marginatum. As these four are in reality but one affection, and differ from each other in aspect and certain clinical peculiarities, solely in consequence of the different localities upon which they are found, and as they all owe their origin to one and the same fungus, called the *Trichophyton tonsurans*, it seems to me more philosophical to give them the general title of Trichophytosis with specific appellations indicating locality. I therefore propose the names, *T. capitis*, *T. barbæ*, *T. corporis*, and *T. genito-cruralis*, and shall first speak of the parasitic fungus to which they owe their origin.

TRICHOPHYTON TONSURANS.—The discovery of this fungus is probably due to GRUBY,¹ who first indicated its presence in connection with herpes tonsurans and mentagra in two memoirs, read before the Academy of Sciences of Paris, but the first thorough description was given by MALMSTEN,² a Swede. This fungus, like the achorion Schönleini, con-

¹ Comptes rendus, etc., Paris, 1842-1844.

² MULLER's Archiv., 1848.

sists of spores and mycelium. The spores are mostly round, and much smaller than those of the *achorion*; and the mycelium is not usually as abundant nor as luxuriant. The favorite, in fact, special seat of the growth is in the hairs and hair follicles, and to a very slight extent among the epidermic cells¹ of the surface. After it has gained a lodgment in the follicle, it almost immediately invades the hair-root, infiltrating it abundantly and propagating itself upward toward the surface, and forcing its way among longitudinal fibres of the hair. This upward growth of the spores continues until it has extended a short distance (one-sixteenth to one-eighth inch) above the surface of the skin. The hair-shaft no longer possessing the support of the follicular walls, yields at this point to the rupturing force of the parasite and breaks off, leaving a ragged and brush-like extremity protruding from the follicle. The degree to which the hairs are involved varies with the character of the hairs and the localities which they occupy.

The four varieties of *Trichophytosis* present certain common features. They are all contagious, and may be transmitted from one person to another, from man to certain animals, and from certain animals to man. A given variety may reproduce its like, or on the other hand, either of the other varieties, and several varieties may coexist upon the same person. The *trichophyton* never gives rise to Favus, nor the *achorion Schönleini* to Trichophytosis.²

TRICHOPHYTOSIS CAPITIS.—This variety is characterized by the appearance upon the scalp of small, round, white and

¹ This occurrence of the spores of the *Trichophyton* among the horny cells is denied by some authors and affirmed by others.

² I believe this proposition should not admit of a doubt, although certain writers claim the contrary. Trichophytosis has been observed in many of the lower animals, as horses, cattle, dogs, cats, rats and mice, and in rabbits experimentally.

scaly patches, apparently deprived in part or wholly of hair. The patches extend in a centrifugal manner with greater or less rapidity. The scales are small and plentiful and, to a certain extent, mask the remains of the hairs. Upon close inspection, however, innumerable short hair-stumps will be perceived projecting a little above the surface. The appearance of this short stubble is very peculiar. The broken hairs do not resemble healthy ones of the same length, such as would have grown out after shaving, but are lustreless, without polish, and of a lighter color than the neighboring healthy hair. Their extremities are rough and often brush-like (*penicilate*), due to splitting up of the shaft and separation of its fibres by the spores of the *trichophyton*. Sometimes a few hairs of normal length will be found scattered over the affected surface. These patches increase in size, and others appear in the neighborhood and if contiguous, soon fuse together until more or less of the scalp is involved, when the appearances noticed in the smaller patches are observed over the whole. The ultimate result if unchecked by treatment, is involvement of the whole scalp, with destruction of the hair follicles and permanent loss of hair. *Trichophytosis capitis* occurs almost exclusively in children and young persons, rarely, if ever, in adults. The oldest patient in whom I have seen it, was a young girl seventeen years of age, whose brother, aged twelve, was also affected. The affection is exceedingly contagious, the most so of any of the vegetable parasitic affections, and is frequently conveyed by the use of hats, brushes, etc., which have been previously used by persons affected. It is also probable that the spores may be conveyed some little distance through the air (Fox), as the affection sometimes spreads rapidly in

schools even where ordinary precautions are employed. If a patch commence near the border of the scalp, by further extension it may spread down upon the hairless portions of the skin, in which case the portion beyond the scalp presents the features peculiar to the third variety, *T. corporis*. *T. capitis* and *T. corporis* may coexist extensively in the same patient.

TREATMENT.—The hairs being specially involved in this affection, epilation is absolutely necessary ; but owing to the disorganized and fragile condition of the hair-stumps, thorough epilation is exceedingly difficult, as the slightest traction upon the stumps often causes them to break and leaves the root in the follicle. Epilation, however, must be attempted and carried out with as much gentleness and care as possible, and after removal of as many hairs as practicable, a parasitidal lotion, as the bichloride or iodine, should be applied. As many of the roots of fractured hairs remain in their follicles after the first epilation, it will be necessary to wait until they have grown out again and are capable of being extracted, the parasitides being kept constantly applied. These cases, therefore, require very frequent attention, and are rarely completely eradicated when extensive, in less than from three to six months. Suspension of the treatment prematurely involves an inevitable relapse. After the destruction of the parasite the hair will again grow normally in the follicles which have not been too much disorganized by the fungus.

TRICHOPHYTOSIS BARBÆ.—This affection constitutes one of the varieties of the so-called Sycosis, Mentagra, or “barber’s-itch.” The other variety has been already considered (p. 155). It appears upon the chin, upper lip and cheeks of adult males, first as a very slightly elevated red sh

patch and slightly scaly. This extends centrifugally and, if the hairs are sparse, exhibits a tendency to recover in the centre, forming a ring, whose advancing periphery is a little more raised than the rest. If, however, the hairs are plentiful, it mows them down as in *T. capitis*, and leaves nothing but a brushy stubble. If these short stumps are extracted with the forceps they exhibit a striking contrast to the extracted hairs in eczematous sycosis. In *T. barbæ* the shaft is often extracted with but half the root attached, while in eczema *barbæ* the whole root comes out, and frequently accompanied by its root-sheaths.

In addition to the appearances noticed in the early stages of *T. barbæ*, others become prominent as the disease advances and constitute very characteristic peculiarities. These are papules, tubercles, pustules, small abscesses, and even ulceration, which are frequently present to such an extent as to render the affection exceedingly disfiguring and disgusting. Some of these lesions are rarely absent in advanced cases, and are the result of inflammatory reaction induced by the irritation of the fungus. Their severity will of course vary with the individual peculiarities of the patient; some cases presenting little more than the special trichophytic appearances, while others may exhibit the secondary lesions to a very marked degree. A few years ago I encountered a case which had been diagnosticated epithelioma by a distinguished surgeon, and excision recommended. The examination of a few of the hairs with the microscope enabled a correct diagnosis to be made, and appropriate and successful treatment to be instituted.

T. barbæ is of course contagious, and is frequently transferred from one to another in barber-shops by means of unclean shaving appliances. It has also been contracted

from the other forms of trichophytosis, and from the lower animals.

TREATMENT.—The treatment of this affection involves the relief of the inflammatory lesions, and the destruction of the parasite. The first is to be accomplished by opening any abscesses that may be present, incision of the papules and tubercles, and the application of cataplasms and emollients to hasten their resolution. The second is achieved by epilation and parasiticides. After the complete eradication of the fungus, indurated nodules may remain for a considerable period, and show very little tendency to undergo resolution. In these cases, stimulating applications, the constant galvanic current, etc., will prove beneficial.

TRICHOPHYTOSIS CORPORIS.—This affection, also called *Tinea circinata*, *Herpes circinatus* and Ringworm, commences as a slightly scaly erythematous spot, upon some portion of the general surface usually spoken of as hairless, but which is really provided with rudimentary and downy hairs. In some cases, the erythema may seem to be level with the surrounding surface, but in others quite an appreciable degree of elevation may be present. As the spot enlarges, it shows a tendency to heal in the centre, so that in a short time we find a reddened ring circumscribing apparently healthy integument. The ring enlarges indefinitely until it may have attained a diameter of several inches. At last it begins to die out at various points along its periphery, making the ring incomplete until finally it disappears entirely. In the meantime, however, other rings may arise elsewhere, and exist in any number, and if contiguous may coalesce at some point of their circumference and form a figure 8, or if several rings unite, various irregular figures may result, giving the affection an appearance not unlike that of *Psoriasis circinata*.

Trichophytosis corporis though more frequent in children, occurs also in adults. In children it may coexist with *T. capitis*, and in adults with *T. barbæ* and *genito-cruralis*. *T. barbæ* may give rise to *T. corporis* in women and children in kissing. The affection may also be contracted from the lower animals as in a remarkable case recently reported by MICHELSON.¹

The *treatment* of *T. corporis* is exceedingly simple, a few applications of the tinct. of iodine being sufficient to remove it. If the color of this substance is objected to, applications of bichloride, or of mercurial or sulphur ointment may be employed instead.

TRICHOPHYTOSIS GENITO-CRURALIS.—This affection appears to have been first noticed by DEVERGIE² who describes it as a variety of herpes circinatus which he regarded as a parasitic affection. DEVERGIE's description is exceedingly meagre, but HEBRA³ subsequently described it at length under the name of *Eczema Marginatum*, considering it to be merely a variety of eczema without apparently suspecting its parasitic nature, or referring to the observations of DEVERGIE. Later KÖBNER⁴ in 1864 discovered the *trichophyton* in connection with this affection, and his observations have been confirmed by PICK,⁵ ANDERSON⁶ and others. HEBRA himself has more recently acquiesced in the views of these observers, and no dermatologist, I believe, except of course WILSON, denies the parasitic nature of the disease. Under these circumstances the

¹ Berlin. Klin. Wochenschrift, Nos. 11 and 12, 1874.

² Traité pratique des Mal de la Peau, 2d ed., p. 273, 1857.

³ Op. cit.

⁴ Virch. Archiv., B. XXIX., S. 226.

⁵ Archiv. f. Derm. u. Syph., B. I., S. 61.

⁶ On the Parasitic affections of the Skin, p. 79, Lond., 1868.

name *Eczema Marginatum* is decidedly inappropriate, and I have consequently adopted the title here given.

The affection is located, as its name implies, in the genito-crural region, and usually commences as a slightly elevated erythematous patch at the upper part of the thigh. As the patch increases it pales in the centre forming by this means a ring whose advancing border is sharply defined, and more elevated than the other portions. The ring may increase in size and descend for some distance upon the thigh, or mount upon the abdomen. A similar ring may form upon the other thigh, and thus give the affection a somewhat symmetrical appearance. The natural moisture of the parts is increased by the irritation of the fungus, and together with the macerated scales and perhaps crusts, causes the eruption to resemble an eczema. As the affection advances, the hairs become disorganized, as in the other forms, and papules, vesicles and pustules are said to occur in connection with it. The former are common, but the last two I have never seen.

TREATMENT.—The treatment is simple and involves the fulfillment of the same indications as in the other forms. Epilation and iodine, or even iodine alone, or the turpeth or other mercurial ointments will bring about a cure. The affection, however, is very tenacious and will relapse unless the trichophyton be entirely destroyed.

CHAPTER XXIX.

PHYTOSIS VERSICOLOR.

This affection is usually called *Pityriasis Versicolor*. ANDERSON and FOX designate it under the title of *Tinea Versicolor*. Both of these names are objectionable; the first, because it would imply that the affection is a variety of ordinary Pityriasis, and the second, because it is a corruption of the old usage which confined the term *Tinea* to certain affections of the scalp. Further, the use of the word *Tinea* in the manner in which these writers employ it, as a general designation of all the vegetable parasitic affections would, to a person not well informed in dermatology, seem to imply that the various *Tineæ* were but varieties of one affection, or at least, very nearly allied. As there are no reasons for believing this to be the case, it is better that a misleading title should be abandoned. I have therefore chosen the name *Phytosis* proposed by WILSON¹ as appropriate in itself, and sufficiently isolating the affection under question from the other parasitic diseases.

Phytosis Versicolor commences by the appearance of small, irregular yellowish-brown spots, very slightly, if at all, elevated above the surface of the skin, and covered

¹ Journal of Cut. Medicine, vol. I., p. III. It is curious that WILSON, utterly repudiating the dependence of any skin affection upon vegetable parasites, should have given a number of these diseases a name which implies such dependence.

with barely perceptible scales. It usually begins upon the chest, extends gradually over the whole of this region, mounts upon the neck, and descends to the abdomen. It may also stretch round to the back and cover this region. It never invades the face, and rarely the limbs. The affection may consist of a few large patches, with very frequently a large number of smaller ones upon the outskirts, or it may be composed almost entirely of maculæ from the size of a pea to that of a dollar. The affection is slow in progress, occupying months and even years before it becomes generalized over the trunk. It is sometimes accompanied by a slight amount of itching. The affection is said to occur more particularly in persons who are out of health, and has even been considered as a special ap-panage of Phthisis. It is certainly a frequent accompaniment of this disease. I have also seen it with more than expected frequency, in connection with syphilis. The affection is more common in women than in men.¹ In the former, I have encountered it limited to the hypogastric and inguinal regions, but have never seen it occupy these parts alone, in men. The affection is most likely to occur in those who are warmly clad, and wear flannel next the chest, and who at the same time are negligent in matters of cleanliness. It rarely, if ever, occurs upon those who make a practice of bathing the chest daily. *Phytosis Versicolor* is said to be contagious, and it is reasonable to suppose that it may be so. I have never, however, been able to trace the occurrence of the affection to this cause, but on the contrary have known of numerous cases where husbands or wives have been affected for years without

¹ KUCHENMEISTER, *op. cit.*, B. II., S. 49, says it is more common in men than in women.

conveying it to their conjugal partners. ANDERSON, however, gives some very conclusive evidence in support of its contagious nature.

ETIOLOGY.—The affection is produced by the development of a fungus whose spores and mycelium are infiltrated among the horny cells of the epidermis. The fungus has received the name of *Microsporon furfur*, and was discovered by EICHSTEDT¹ in 1846. The spores are, as the name implies, exceedingly small, but of varying size, and uniformly round; the mycelium is sometimes simple, and sometimes branched. It is readily detected by scraping a few scales from the surface, macerating them in ether and alcohol to remove the oil, afterward examining them microscopically with an amplifying power of five hundred diameters. The spores are found only in the epidermis, and do not invade the hair-follicles or hairs.

TREATMENT.—The *treatment* of Phytosis Versicolor is exceedingly simple, and if properly carried out, always successful. The indication is to destroy the parasite. As the fungus involves neither the hair nor the follicles, epilation is unnecessary. All we require is a parasiticide or, as I should prefer to call it, an *epidermicidē*. The tincture of iodine answers the purpose admirably. It should be applied until the epidermis commences to desquamate. When this occurs a warm bath, plenty of rather alkaline soap and good friction will remove most of it. A fresh application of the iodine, if the first has not been sufficiently effectual, should be employed, and the affection carefully watched for some weeks, suspicious spots receiving renewed applications as may be necessary. It is also well to wash the surface

¹ FRIEDRICH Notizen, 1846. SLYTER, *Dissertatis de vegetabilibus organismi animalis parasitis ac de novo Epithya in pityriasi versicolori*, Berlin, 1847.

frequently with undiluted sulphurous acid. The garments worn next the skin should be changed every few days, and thoroughly disinfected, or better, destroyed. A few weeks' faithful attention will usually be sufficient to complete the cure.

The parasitic affections of vegetable origin unquestionably develop with greater readiness in those who are debilitated, or out of health from any cause. Tonics, therefore, including cod-liver oil, etc., often prove of great service in checking the spread of these affections.

CHAPTER XXX.

ALOPECIA AREATA.

The subject of *Alopecia Areata* must be approached with a good deal of caution, as the views held concerning it by various authors do not by any means agree. The name is commonly applied to certain circumscribed patches of baldness occurring upon the scalp and other hairy parts. In the first place, it is somewhat uncertain whether this name embraces but a single disease, or whether it includes two separate affections which, though greatly resembling each other in aspect, are essentially unlike in nature. Fox has recently expressed his belief that there are two diseases, one non-parasitic, to which he confines the name *Alopecia Areata*, and the other parasitic, and called by him *Tinea decalvans*. WHITE,¹ a little earlier, expressed the same belief, and I had myself previously distinguished two forms of the disease.² Most writers do not make this distinction, and some, as BAZIN, regard the affection as always parasitic while others, including the majority, consider it non-parasitic, and the result of nerve lesion of some sort. Neither of these views, however, nor even the one which admits two

¹ *Vegetable Parasites*, p. 27, Boston, 1872.

² *Proceedings of the N. Y. Derm. Soc.*, N. Y. Med. Gazette, p. 120, 1870. BAZIN likewise admits two forms of *Alopecia* (both parasitic, however). *Recherches sur la Nature et le Traitement des Teignes*, Paris, 1853.

different affections, one parasitic and the other not, succeeds in explaining all the phenomena connected with this peculiar affection.

The disease usually commences by the appearance upon the scalp of a small spot entirely deprived of hair. The spot when first noticed, may not be larger than a three or five cent piece. It rapidly extends, and in a few days may be an inch or more in diameter. The hair is entirely absent, having come out by the roots, not, as a rule, broken off just above the surface as in *Trichophytosis*. The affected part may be slightly reddened and a little elevated, or it may be of the same color as the rest of the scalp, and on a level with it, or it may be a shade paler and very slightly depressed. Other spots may appear in the neighborhood or in the beard or elsewhere. The further extension of the affection results in the fusion of the separate spots. In this way extensive and irregular patches are formed. The affection may go still further, until the whole scalp is deprived of hair, and in fact until every hair upon the body has disappeared. Occasionally the first fall of the hair may be succeeded in a short time by a somewhat scanty growth of unhealthy-looking, light-colored or even white hair, which soon falls and gives way to a perfect Alopecia of *indefinite* duration. I say indefinite, because in some instances the baldness is permanent, while in others a new growth of hair seems to occur spontaneously after a variable period, and may even attain its pristine luxuriance. The affection occurs in youth and also among adults, but I have never observed it in advanced life. It is not accompanied with pruritus or any local or general symptoms, and is not supposed to be connected with any special internal derangement. Much difference of opinion exists as to the

contagiousness of the affection. BAZIN and others who believe in its parasitic nature, assert that it is contagious. Those, however, who regard it as a localized innutrition deny this. WHITE and FOX, who think that two separate affections have been included under this name, believe that only one of them is contagious and the other not. Throwing aside simple opinions, let us examine facts. Numerous cases of Alopecia Areata have occurred in the practice of every dermatologist, which though surrounded by influences favorable to the spread of the affection, if contagious, have yet pursued their course without giving rise to any suspicion that the affection could be propagated in this manner. *Per contra*, several observers, ANDERSON,¹ GIBERT,² GILLETTE³ and others, report cases in which the affection has apparently spread by contagion. It has also appeared in schools and in a short time affected a large number of the pupils. Of this HILLIER⁴ reports an instance. In a large school with over a thousand inmates of both sexes it was discovered that a number of the children were affected with this disease. It continued to spread until forty-three were attacked. These were all girls from seven to fourteen years of age who lived together. The younger children and the boys were in separate sections of the building and were not affected. On careful inquiry it was ascertained that one of the girls had been suffering from the affection for some time and had freely associated with the others.

The supposition that Dr. HILLIER's diagnosis was incorrect, as suggested by some, and that these cases were simply *Trichophytosis* is not admissible, and we are com-

¹ Parasitic Diseases, p. 142.

² Traité pratiques des Mal. de la Peau, etc.

³ Gazette Med. de Paris, t. VII., 1839.

⁴ Lancet, Oct. 1, 1864.

pelled to regard the observation as pointing strongly to contagion.

Fox has suggested that some relationship exists between the variety of Alopecia which he terms *Tinea Decalvans* and *Trichophytosis*, and that the former, in some cases, may be derived from the latter, and *vice versa*. The following personal observations are worthy of consideration in this connection.

CASES IV. V.—In the summer of 1873, a boy aged five years was attacked with alopecia areata, from which he recovered. The following summer, he, together with a younger sister, resided in the same house with a young gentleman who was suffering from *Trichophytosis barbæ*. After a few weeks the little girl displayed a trichophytic ring upon the cheek, and three weeks later, two patches of Alopecia were discovered upon the head of the boy.

CASE VI.—In Feb., 1873, a gentleman consulted me concerning an eruption upon the cheeks and chin, which upon examination proved to be a *Trichophytosis barbæ* (diagnosis confirmed by the microscope). This gentleman had some time previously been under the care of Dr. ZINSSER for Alopecia Areata of the beard. The *Trichophytosis* was in due time cured, but in March, 1875, he returned with a second attack of Alopecia.

CASE VII.—In Nov., 1874, the brother of Case VI., living in the same house with him, came to my office with *Trichophytosis genito-cruralis*.

CASE VIII.—In Sept., 1875, a gentleman, a friend of the two preceding cases and residing with them, consulted me concerning a small patch of Alopecia Areata of the chin. This patient was about thirty years of age but had never shaved. His moustache and whiskers were long and silky, but a very large number of them possessed along their shafts one or two, and in one instance even five, light-colored swellings or dilatations. Upon microscopical examination these lesions of the hair were found to correspond to the condition first described, I believe, by BEIGEL under the title of "*Auftreibung und Bersten der Haare*."¹

¹ Sitzungsber. der Wien. Akad., Oct., 1855.

CASE IX.—At the present time (Dec., 1875), a lady is under my care for a small patch of Alopecia Areata. She had the same affection six years ago, and is the mother of Case IV., the little boy who likewise has been twice affected. In this case the patch, about $\frac{1}{2}$ " in diameter, was not entirely bald, but scattered over it were about a dozen short stumps, which projected perhaps a $\frac{1}{16}$ " above the surface. These were extracted and subjected to examination with results which will be detailed later.

As regards the connection between Alopecia Areata and Trichophytosis suggested by Fox, the facts observed by him, and cases IV., V., VI., VII., and VIII., above noticed, should keep us alive to the possibility of a closer relationship between these affections than has hitherto been suspected.

HISTOLOGY AND ETIOLOGY.—One would naturally suppose that the microscope would be able to clear up the disputed questions as to the nature and etiology of this affection. Unfortunately it has not as yet been able to do so to the satisfaction of every one. RINDFLEISCH,¹ for instance, finds certain constant changes about the hair-root, but no parasites. MALASSEZ,² on the other hand, found a parasitic fungus in every instance. At first thought, it would seem that the views held by WHITE and Fox, to the effect that there are two kinds of Alopecia Areata, one parasitic and the other not, would explain the apparent discrepancy between the observations of RINDFLEISCH and MALASSEZ; but upon reflection we must concede the extreme improbability that RINDFLEISCH constantly met with but one form of the affection, and that MALASSEZ always encountered the other. Numerous other observers have examined this affection microscopically. The minority

¹ Archiv. f. Derm. u. Syph., B. I., S. 483.

² Archives de Physiologie, 1874.

have found a fungus in connection with it, while the majority, including myself,¹ have failed to do so. It may not be uninteresting, therefore, to examine somewhat in detail the descriptions given of the fungus by those who claim to have seen it.

The first discovery of a fungus in connection with this affection is usually ascribed to GRUBY. In the *Comptes Rendus*, t. 17, p. 301, 1843, will be found his memoir, entitled "*Recherches sur la nature, le siège et le développement du Porrigo decalvans ou phyto-alopécie.*" He says: "*Le Porrigo decalvans se caractérise, comme on sait par des plaques arrondies, couvertes d'une poussière blanche, et de petites écailles grisâtres, et par la chute des cheveux.*

"*En examinant attentivement sous le microscope cette poussière blanche qui couvre la peau dans le Porrigo Decalvans, on sera étonné de la trouver formée entièrement par les cryptogames. En sommettant au microscope les cheveux provenant d'individus atteints de cette maladie, on y remarque une grande quantité de cryptogames qui les entourent de tous côtés, et leur forment une véritable gaine végétale que les accompagne depuis leur sortie de la peau, jusqu'à une distance de 1 à 3 millimètres.*

"*Le tissu du poil est altéré par la quantité de Microsporon Audouini² qui se fixe à sa surface. D'abord le cheveu devient opaque à l'endroit où les cryptogames sont placés; . . . Le tissu des cheveux lui-même devient friable, cassant; un tel cheveu casse même par simple flexion, et de là partout où les plantes parasites ont envahi le tissu des cheveux.*"

The description here given of the gross and microscopical aspects of "*Porrigo decalvans*," is most certainly not ap-

¹ Except in the single instance referred to at page 293.

² This is the name which GRUBY gave to the fungus in question.

plicable to the affection under consideration, but would apply very well to cases of Trichophytosis capitis, and I have no doubt whatever that GRUBY's observations were made upon cases of this latter disease. Yet I believe every dermatologist, from BAZIN to FOX, who considers Alopecia Areata to be a parasitic affection, admits the validity of GRUBY's discovery and adopts the name which he gave the fungus.¹

BAZIN especially claims that GRUBY's account is very exact, and gives the following description of the *Microsporon Audouini* as seen by himself.² "The spores are smaller and less numerous than in the trichophyton; the trichomata more numerous. The disposition of the fungus with reference to the shaft and root of the hair is remarkable and very different from that of the trichophyton. Thus, upon the shaft, the spores sometimes form small isolated groups or clusters. The shaft itself presents here and there spherical or ovoid swellings or nodes, resulting from dilatation and curving of the longitudinal fibres, among which masses of sporules may be perceived. Between these nodes the hair appears unaltered."

WHITE,³ who claims to have seen the fungus, neglects to give a description of it.

FOX⁴ says: "Under the microscope, in some instances, at intervals on the shaft, are collections of minute spores and also in the little masses of epithelium that stick to the hair. The hair may present bulgings here and

¹ Since the above was written, HORAND has published an article in the *Annales de Derm. et de Syph. An. VII, No. 1*, in which he states his belief that GRUBY's cases were Trichophytosis.

² *Leçons théoriques et cliniques sur les Affections Cutanées parasitaires*, p. 202, Paris, 1858.

³ *Loc. cit.*

⁴ *Diseases of the Skin*, 3d ed., p. 460, London, 1873.

there, which are due to the presence of abnormal granular matter, partly pigmentary, partly the minute stromal form of the fungus, which is scattered throughout the hair, and remains mostly undetected (see Fig. 81).¹ I have shown this repeatedly by artificial germination, by which I have obtained the distinct sporular form in the course of a few days from what appeared to be mere granular debris.² The fungus is the *Microsporon Audouini*. The spores are from $\frac{1}{3000}$ to $\frac{1}{5000}$ of an inch, the filaments are few, wavy, and devoid of granules. The fungus is sometimes found in the epithelium at the extending edge of the disease.”

These appearances are sufficiently distinct to enable any skilled microscopist to recognize them, yet strange to say many hundreds of examinations of hairs from *Alopecia Areata* have been made by competent observers with negative results.

Lastly MALASSEZ³ comes into the field with a description of a fungus found in connection with this disease. This observer found (in every case), among the fine epidermic scales from the surface, a large number of spherical and ovoid, highly refractile bodies, not larger than four to five *micra*. These bodies were double-contoured, and many of them possessed small buds projecting from some portion of their circumference. Other spores were annular, and others again formed incomplete rings; still others, measuring two *micra*, had the same general characters as the above, except the double contour, and others again of much less diameter possessed the spherical form only.

¹ This figure is so indistinct in Fox's book that it proves nothing.

² How does FOX know that floating germs from the air have not been introduced, and developed at the expense of the granular matter (see FOX, op. cit., p. 226, lines 21 and 22).

³ Archives de Physiologie, 1874.

These different spores were sometimes found singly, at other times in groups and chaplets. Upon the hairs the spores were rarely discovered, and when found, their presence appeared to be accidental. The hairs, however, were often faded, atrophied or fragile, but their structure was not sensibly modified, nor even their epithelium destroyed.

Since reading MALASSEZ' description I have examined the scales from one case of Alopecia Areata and found the appearances described by him. How different, however, is his description from that given by BAZIN and FOX!

We see then that from GRUBY to MALASSEZ no two observers agree as to the characters of this cryptogam which they all unite in calling the "*Microsporon Audouini*." BAZIN and FOX lay special stress upon the nodular swellings of the shaft and dissociation of the hairs, features not referred to by MALASSEZ nor GRUBY and which I observed in cases VIII. and IX., and then unaccompanied by fungus. In order to detect the fungus if possible, in the hairs from case VIII., they were carefully soaked in several changes of ether, and washed with absolute alcohol, in order to remove all grease, dirt or other foreign matter which might impede a thorough examination. This being done, they were rendered as transparent as possible by glycerine or turpentine and carefully examined. No spores, nor even Fox's "stromal" form were found, but simply the nodules on the shaft with dissociation of the longitudinal fibres. Subsequent to this examination Dr. ZINSSER informed me that when case VI. was under his care with Alopecia he had noticed bulgings on the hair-shafts and had examined them carefully. He found no fungus, but instead what appeared to him to be fatty globules infiltrating the shaft. In consequence of this hint received from Dr. Z.,

I was prepared to examine the hairs from case IX. with special reference to this point. The broken ends of the hairs were all brush-like; in addition there were bulgings upon the shafts at points where complete rupture had not as yet occurred. Examined in water, fine globules were in some cases obscurely seen among the fibres at the seat of fracture. Examined in *liq. potassæ*, numerous globules resembling emulsionized oil were discoverable about the hair, of which *some were seen to issue from the interior* at the site of the bulging. A solution of osmic acid was added to the water preparations and the globules were blackened. Hairs soaked in a one per cent. solution of osmic became intensely blackened at the site of ruptured nodules, and at the fractured ends, while other portions of the shaft were unaffected. No spores were found. These observations leave no doubt in my mind that a localized fatty degeneration of the hairs is an important element in connection with the pathology of this affection, and previous to the observations of Dr. ZINSSER, confirmed by the present ones, entirely overlooked.

In view of the foregoing I cannot help believing that GRUBY's observations did not concern the present affection at all, but related to trichophytosis capitis, that BAZIN and FOX mistook fatty matters for spores, that MALASSEZ first discovered that a fungus frequently, if not always, accompanies the affection,¹ and finally, that the fatty degeneration above noticed introduces a further perplexing element into the study of this obscure affection.

TREATMENT.—Whatever differences of opinion there may be as to the cause of Alopecia Areata, its treatment is ex-

¹ It does not, however, necessarily follow that MALASSEZ's fungus is the *cause* of the disease.

ceedingly simple. It appears to get well as readily in the hands of those who consider it a parasitic affection as with those who believe it to be a tropho-neurosis, and *vice versâ*. Spontaneous recovery may also occur. In one case, to my knowledge, a young gentleman lost all the hair from his head. In a year his hair was as thick as ever, the only treatment employed being daily ablutions of the scalp with cold water. In another instance two young ladies, intimate friends and sometimes bed-fellows, simultaneously discovered that they were affected with Alopecia Areata. I saw both cases, but only one of them came under my care. This case was treated by epilation of the margins of the patch, stimulants and parasiticides, the other was treated by a homœopathic practitioner with internal remedies only. Both cases recovered about the same time. In spite of these apparently spontaneous recoveries, it is by no means safe nor advisable to leave these cases to nature. It is much better to consider the disease (for purposes of treatment) a neurosis and a parasitic affection as well, and employ a method of treatment which will meet both views. My usual procedure is as follows: First, to epilate the marginal hairs and any fine hairs which may be visible upon the surface of the patch, next to blister the denuded part with cantharides, and as soon as the blister has healed, to have the surface shaved every four or five days, using in the intervals, twice a day frictions with turpeth ointment. In the course of two or three weeks, the part is to be again blistered, and this treatment continued until decided amendment is apparent. In addition to the cantharides, I have frequently sought to stimulate the parts with the constant, and with the induced electric currents. This general plan of treatment will almost always prove successful, and result in a new growth of hair in from two to four months.

CHAPTER XXXI.

IMPETIGO CONTAGIOSA.

This name has been given by Fox to the peculiar affection first isolated and accurately described by him in 1864.¹ Cases of the affection were subsequently recognized by KOHN² (KAPOSI), TAYLOR³ and myself.⁴

The name given is not altogether appropriate, as the affection is not a variety of ordinary impetigo, that is, a pustular eczema, but is, so far as we know, an affection *sui generis* and distinct. Our knowledge, however, of the disease is as yet so incomplete that a more accurate title can hardly at present be given.

The affection according to Fox, usually commences by the appearance of constitutional symptoms of a pyrexial character, varying in severity in different cases. In two or three days, one or more small vesicles may appear upon any portion of the cutaneous surface. They gradually enlarge, and two or three days later dry into thin, light-yellowish or straw-colored scabs or crusts. The vesicles and crusts may be indefinite in number, and successive eruptions may prolong the disease for several months. During the

¹ British Medical Journal, 1864, and Journal of Cut. Med., 1868.

² Wiener Med. Presse, June, 1871.

³ Am. Journal of Syph. and Derm., Oct., 1871.

⁴ N. Y. Med. Journal, June and July, 1872.

progress of the affection, associates, adults as well as children, may become the subjects of a similar eruption, showing it to be decidedly contagious. Inoculation with the fluid contained in the vesicles will produce similar lesions, both upon those who are already affected and upon others, a fact experimentally determined by FOX and TAYLOR.

The affection sometimes follows vaccination. In fact, in examining the observations detailed by FOX, we find that in almost every instance the first case of each series became affected shortly after vaccination. My own experience, though much more limited, has been similar. In the majority of cases I have been able to ascertain that the Impetigo Contagiosa appears subsequent to a recent vaccination, usually during the second or third week after the falling of the crust.

Removal of the Impetigo crust reveals a slightly reddened surface, with very little or no moisture, and no ulceration or even erosion of the surface, the lesion being extremely superficial. After the spontaneous fall of the crusts, a bluish-red macule or stain is left, which persists for some little time.

The affection is sometimes accompanied with a moderate amount of pruritus.¹

ETIOLOGY AND HISTOLOGY.—Neither FOX nor TAYLOR express any definite views as to the etiology of the affection. FOX examined the fluid from the *vesicles*, microscopically, without discovering anything therein to account for its contagious properties except a few minute molecular bodies. Believing that the affection might possibly be due to a vegetable parasite, I also examined the fluid from the

¹ For further details concerning the history of this disease the reader is referred to the publications cited.

vesicles with the same results as Fox, but in addition removed some of the crusts from different cases and dissolved them in solutions of caustic potassa or soda (about five per cent.) Upon transferring a drop of the solution to a glass slide and covering it with thin glass the following appearances were observed. In the first place there were a number of small circular bodies about $\frac{1}{800}$ of an inch in diameter. These appeared to be bi-concave discs very closely resembling blood corpuscles. Their minute size, however, and the fact that they had been immersed in the caustic solution precluded the possibility of their being in reality blood-discs. Some of these bodies were isolated, but occasionally several were found together usually in

Fig. 45.

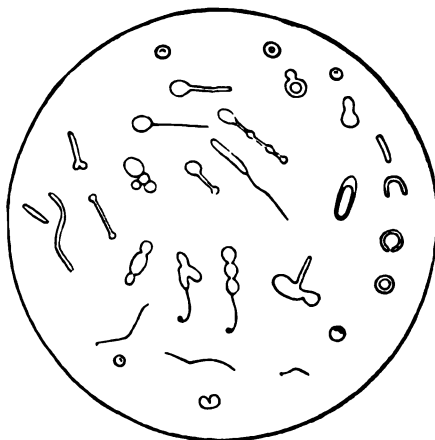


Fig. 45—Fungus formed in Impetigo Contagiosa and vaccine crusts.

chains, sometimes in clusters. In addition to these hæmo-discoids, other bodies were observed presenting an almost endless variety of forms, some of which are shown in the cut, Fig. 45.

The remarkable fact that Impetigo Contagiosa in so many instances first develops shortly after vaccination, led me to suspect that there existed some closer connection between the two than mere coincidence. The coincidences were too frequent to be explained by the doctrine of chance. I was therefore induced to make a careful examination of vaccine matter, for a plentiful supply of which I was under obligations to Dr. F. P. FOSTER.¹ Examination was made of lymph and crusts, both from the human subject and direct from the calf. Fresh lymph was examined with amplifying powers of from five hundred to fifteen hundred diameters. Nothing of an organized nature appeared upon examination except the fine molecular bodies, by BEALE called "bioplasts," and by CHAUVEAU "vaccinads." These were indistinguishable from the molecular bodies found in the fluid of Impetigo Contagiosa.

Portions of vaccine crusts were placed in small vials and clean test-tubes and a little more than covered with freshly-made solutions of caustic soda, potassa or ammonia, of varying strengths. After the lapse of from one to twenty-four hours, depending upon the strength of the caustic solution employed, more or less complete liquefaction of the crusts was found to have taken place. A drop of this fluid was removed from the vial and examined microscopically. Upward of twenty vaccine crusts were thus examined, and in *every instance fungoid bodies similar to those observed in Impetigo Contagiosa were found*, with the sole difference that in vaccine crusts the fungus was more abundant and more luxuriant than in the majority of crusts derived from the other affection.²

¹ Director of the vaccine establishment of the N. Y. Dispensary.

² For fuller details concerning the microscopical characters of these bodies the reader is referred to the original articles in the N. Y. Med. Journal, 1872.

The fact of the frequent occurrence of Impetigo Contagiosa after vaccination, and the identity of the fungus found in both affections, certainly appear to point to a more than casual connection between the two, and to the possibility that these fungi may be the active agents in the propagation of the disease.

Fox, however, objects to this view of the case. He says: "The fact of finding fungi in the crusts is explained by that of the access of air to the layers of the crusts. In the first place, in order to show that the presence of the fungus is something more than an accident, it would be necessary to discover the fungus in the fluid of the vesicopustule before it bursts."¹

From this it will be seen that Fox appears to rely upon the universal germ theory which peoples the air with myriads of minute and even, to the microscope, invisible germs, ever ready to develop into various fungi whenever they happen to fall upon a congenial soil.

Per contra, is it not equally and even more probable that the vitalized *molecules* in the Impetigo and vaccine fluids, are the real germs from which these fungi spring? The discovery of undoubted vegetable organisms in the vaccine lymph by COHN,² their ready demonstration by JACOBS'S³ process, and the discovery of fungi in the lymph, in the rete Malpighii, and in the underlying lymphatics by KLEIN,⁴ in cases of sheep-pox (*Variola ovina*), are all arguments of weight in support of the view which I offer.

The question cannot be considered as definitely settled,

¹ Skin Diseases, 3d ed., p. 226, London, 1873.

² VIRCHOW'S Archiv., B. 55, S. 229.

³ La Presse Medicale Belge., No. 13, 1875.

⁴ Reports of the Medical Officers of the Privy Council, etc., New Series No. III, London, 1874.

although I decidedly incline to the belief that the affection is the result of contagion by means of fungi.

TREATMENT.—The treatment of Impetigo Contagiosa is exceedingly simple. All that is necessary is to remove the crusts, and apply a mercurial or sulphur ointment two or three times a day, and in a short time all traces of the affection will disappear except the bluish-red discolorations which mark the site of the eruption. These gradually fade, and ultimately the skin assumes a normal aspect, without mark or scar.

CHAPTER XXXII.

INTERTRIGO.

Intertrigo is the name applied to a condition of the skin which sometimes arises in consequence of prolonged contact of two cutaneous surfaces. It is chiefly met with in infancy and in advanced life, rarely in the intermediate periods, and especially, if not solely, in those who have an excessive development of adipose tissue. In fat children the skin of the abdomen, particularly in the inguinal regions, is frequently in contact with that of the thighs. In these cases the cutaneous secretions, insensible perspiration, etc., instead of passing off in a state of vapor, remain fluid. This fluid undergoes decomposition, and the putrefactive changes result in the formation of certain highly irritating substances. The epithelium of the part, being moist and macerated, affords little protection against the action of these acrid bodies, and they consequently in a short time provoke an intense congestion (*erythema*), frequently accompanied with a certain amount of thin serous exudation. If this condition is unrelieved, vesicles or pustules may form, at least it is so stated, and still further prolongation of the trouble may induce more or less superficial ulceration, occasionally, however, extending through the whole depth of the skin. The ulcerated parts

secrete a thin sero-purulent fluid which mingles with the cutaneous secretions. The condition of the child's general health will modify to a certain extent the appearances presented. This affection is not confined to the parts already mentioned, but may occur wherever two cutaneous surfaces are in contact.

Exactly the same state of affairs may arise in advanced life, in consequence of obesity, sometimes in men, but more frequently in old women whose pendulous breasts and abdomens compel a portion of the surface to be in almost perpetual contact with the integument which they overhang. If now cleanliness is neglected, the affection is very apt to be sooner or later developed.

In persons with a rheumatic predisposition, the irritation of the Intertrigo may give rise to a frank eczema, which when fully developed, masks to a considerable degree the features of the primary affection.

TREATMENT.—In mild cases nothing more is required than the separation of the parts by insertion of a fold or two of linen between them. This absorbs the discharge, and as soon as it becomes foul should be removed. Frequent ablution of the parts should be enjoined, with thorough drying of the surface, after which a little inert absorbent powder, as equal parts of starch and lycopodium or the ordinary Lubin's toilet powder, should be dusted on. This will in a short time give relief. In more severe cases an astringent application may be employed, such as a powder containing a small amount of tannin. If ulceration be present, decided stimulants may be used, as solutions of sulphate of zinc, nitrate of silver, etc., in addition to the means already indicated. In all cases, however, the utmost cleanliness must be insisted upon, if a relapse is to be prevented.

circuit closed by a sponge-covered rheophore in contact with the neighboring skin. The current was allowed to pass for a fraction of a minute only; the sponge was then removed and the needle points applied at a little distance from their first position, and so on until the whole patch had been covered with electrolytic pricks. The result has been, after a year, disappearance of the red color, and in its place a whitish mark which a bystander would barely notice. I think the method is worthy of further trial, though I have not as yet had another opportunity of employing it.¹

The *pigment* and *hairy* Nævus. These are commonly called moles. If there be increased pigment deposit alone, the nævus is usually flat, with no perceptible elevation above the surrounding skin. The deposit is probably located in the deep cells of the rete. These discolorations are perhaps more frequently located upon the covered portions of the body than upon the face. They are, however, rarely meddled with. The hairy nævus (*nævus pilus*), is usually an elevated brownish mark, more or less thickly studded with hairs. The color may vary from a shade hardly darker than the normal skin to a hue approaching that of the negro. The hairs may likewise be little more than downy and colorless, or they may acquire an appreciable thickness and color. These nævi may occur upon any part of the body, exist in any number, and vary in size.² The appearance of these nævi would of course be improved

¹ The destruction of deep and protuberant vascular nævi and angiomas by electrolysis is of course a well-known surgical procedure, but I am not aware that it has been practiced in the treatment of the superficial variety here referred to.

² I have been specially struck with the frequency of this blemish in French women, especially Parisians, and have never noticed it to anything like the same extent in Germany, England or this country.

by destruction of the hairs. The various depilatory preparations, which are recommended for this purpose, are not to be relied upon, as their action is very superficial, and their effect but temporary, the hairs soon growing again, and sometimes more vigorously than before. It is necessary to destroy the hair papilla, and as this is located quite deep in the skin, especially in the case of the larger hairs, we will be obliged to destroy nearly if not quite the whole thickness of the derma. This can of course be effected with alkaline caustics but is apt to leave an unsightly scar.¹ I have been able, however, in two instances to destroy the larger hairs, and to appreciably lessen the deformity by the following procedure. A piece of irido-platinum² wire was slowly drawn in a draw-plate until the minimum of fineness was attained. An inch of the wire was then connected with the negative pole of a galvanic battery. The larger hairs were then extracted one by one, and immediately after extraction, the wire was introduced into the follicle and the galvanic circuit closed. The destruction of the follicle was effected in less than half a minute. The procedure was facilitated by using the compound microscope (Fig. 21), furnished with an erecting eye-piece. The operation was of course tedious but the results were satisfactory.

FURUNCLES.

Furuncles or "boils" are small or moderately-sized red and painful inflammatory elevations of the skin. They sometimes seem to occur spontaneously and without apparent cause, at other times, in connection with a debilitated state of the system. They also frequently occur during a pro-

¹ Excision of small favorably situated *nævi* is sometimes to be recommended.

² Irido-platinum is preferred as it is much stiffer than pure platinum.

longed course of hydropathic treatment,¹ and are usually considered by the practitioners² of this branch of the healing art as a "good sign," and indicative of a favorable "crisis" in the disease for which the treatment is being employed.

It is not unusual for two or more furuncles to occur at once, or they may appear in successive installments, and prolong the trouble for weeks or months.

After the first appearance of the boil, which may have been preceded by a sharp stinging sensation followed by pruritus, the swelling becomes more perceptible and hard. In a day or two, however, a whitish point appears at the apex. This gradually enlarges until nearly the whole tumor becomes purulent, with consequent softening. Later the abscess, for such it now is, bursts and discharges its contents, mainly pus, with in addition a firm whitish substance called the "core." Reparative action then commences and recovery takes place with a depressed scar varying with the size of the boil.

TREATMENT.—NEUMANN³ says that abortive treatment by means of iodine, mercurial ointment and nitrate of silver are of no avail, and recommends early incision. Upon both of these points I must join issue with him. In the first place I am fully satisfied by trials upon myself, as well as upon others, that the free application of a stick of nitrate of silver to a commencing furuncle will very frequently give immediate relief to the pain, and cause involution without suppuration. On the other hand, if abortive treat-

¹ The attendants at the Russian vapor baths very frequently suffer from these annoyances during their novitiate, but not afterwards.

² I believe they are all charlatans in this country, how it is elsewhere I do not know.

³ Op. cit., p. 171.

ment is not employed, I am equally satisfied that the final recovery will be hastened by deferring incision until the very last moment. If the boil be opened before it is fully "ripe," the pus which has formed will be discharged, but the central slough or "core" will remain attached by its deep extremity, and it is necessary for the opening to again close, and new accumulation of pus to take place before the core is loosened. When fully mature, however, the core comes out with the pus, and reparative action commences immediately.

As before stated, furuncles are apt to come in successive crops. Prophylactic treatment is therefore demanded. In this connection tonics, ferruginous and bitter, are almost always of service. The sulphite of soda in doses of twenty to thirty grains every few hours, has in the hands of some¹ proved a valuable remedy in diminishing the tendency to the occurrence of these unpleasant visitors. My own reliance, however, has, of late, been CHURCHILL'S "Syrup of the Hypophosphites." I believe that this preparation possesses decided prophylactic powers in this affection.

After a boil has been opened, it is sometimes the custom to apply a poultice for several days. This practice is not unfrequently followed by the appearance of another boil in the immediate neighborhood of the first. If, however, the incised boil be dipped in hot water, and kept there as long as possible, and then dressed with a simple ointment of some kind, this tendency will be diminished.

VERRUCÆ.

Verrucæ or "warts" are papillary excrescences of the derma, due to hypertrophy and prolongation of the papillæ

¹ Dr. BULKLEY tells me he has never known it to fail.

with hyperplasia of epidermis. Their favorite seat is the fingers and hands.¹ They may, however, occur elsewhere as upon the forearms and other parts of the body, and I have in one instance counted no less than twenty upon and around the lips of a young girl who had thirty or more upon each of her hands.

The *cause* of their growth is unknown. They sometimes undergo spontaneous involution, and disappear as mysteriously as they came.

The *treatment* usually recommended is to pare down the wart with a sharp knife, to the level of the surrounding skin, and then to apply some caustic as the nitrate of silver or glacial acetic or one of the mineral acids, repeating the application until the wart is destroyed.

¹ I shall not speak of the so-called venereal warts and cauliflower excrescences which occur about the genitals.

CHAPTER XXXIII.

AFFECTIONS OF UNCERTAIN NATURE.—ERYTHEMATA.

The term Erythema is not strictly applicable to any one disease, but is used in a generic sense to convey the idea of superficial congestion either limited or diffuse, together with, in some cases, exudative lesions. To distinguish these different conditions, for the designation *erythema* may be regarded as simply the name of a symptom, various adjectives are employed in connection with it. This has given rise to the terms *E. simplex*, *perneo*, *paratrimmum*, *multiforme*, *nodosum*, etc.

Some of these affections are entirely distinct in nature and etiology, while others may be more nearly related. It is unfortunate that a common generic name, indicative of a symptom only, has been thus so indiscriminately applied, but it will be expedient for the present, I think, to follow usage, and to describe these affections in the order given. The first three of these erythemata are purely local affairs, and ought with propriety to have been considered in the section devoted to such affections, but as the others are probably not altogether local, I have thought it best to describe them together in this chapter.


ERYTHEMA SIMPLEX.

This name is used to designate any non-elevated hyperemia of the skin. The condition may be due to a variety

of causes, as for instance, vigorous friction, or the application of irritants as mustard, cantharides, acrid discharges, etc. The congestion which results from a slight burn, if blisters do not form, may be also called erythema. Numerous other local causes may produce this condition which is simply characterized by congestion without exudation. The redness vanishes under pressure, to return again the moment the pressure is relaxed. These erythemata are of very little consequence as they usually disappear in a short time after removal of the cause which excited them. There is, however, a condition called chronic simple erythema which occurs upon the face, and is sometimes accompanied with a slight amount of desquamation. This form usually yields to slightly stimulating applications.

ERYTHEMA PERNEO.

E. perneo or "chilblain" is a condition of chronic congestion which follows partial congelation, and is apt to prove a very obstinate and annoying affection. It most frequently affects the feet, hands, ears and nose, (in this latter situation simulating rosacea). The lesion is usually accompanied with more or less pain of a burning character. E. perneo is much worse in winter than in summer, and in fact may disappear entirely during the warm months, to return upon the advent of cold weather, and give more or less trouble until spring again arrives. It may in this way recur for several years. E. perneo is sometimes accompanied with fissures and ulcerations, due to the diminished vitality of the affected skin. The *treatment* usually recommended is the application of stimulating ointments or lotions, if the parts be ulcerated or cracked, but if the surface be unbroken, frictions with turpentine or camphor-



ated liniments. Personally I have for several years relied upon the constant galvanic current in both the ulcerated and non-ulcerated conditions. This agent appears to restore more or less completely the vitality of the parts, and in some instances to bring about a radical cure; at least, this favorable result appears to have been obtained in a number of cases.

ERYTHEMA PARATRIMMUM.

This name is applied to the passive congestion of the skin which results from long-continued pressure, and more particularly to that which precedes the formation of "bed-sores." In some persons of feeble vitality, if long confined to bed, and especially if forced to maintain an unvarying position, the parts of the skin upon which the greatest amount of pressure is exerted, become reddish or bluish-red. If this condition is unrelieved the skin ultimately ulcerates, and the destruction of tissue may be both extensive and profound.

TREATMENT.—The measures best calculated to prevent the development of *E. paratrimmum*, or if it have appeared, to obviate its results, are mechanical. The pressure upon the parts must be relieved, and applied elsewhere. This may be effected by properly constructed pads or air-cushions. A water-bed answers the purpose still better, as it distributes the pressure equally over the whole surface.

ERYTHEMA MULTIFORME.

This eruption differs markedly from those which have been just described. While they are due to local influences alone, and only affect the particular points subject to the external irritation, this affection appears to be the result

of internal causes, and to have special points of election, or in some cases to become more or less generalized. As regards aspect, the forms of Erythema first noticed are simply circumscribed or diffused patches of redness, without elevation or effusion, but *E. multiforme* is characterized by a variety of lesions, in which exudation plays a prominent part, and which are consequently somewhat elevated above the surrounding healthy skin.

The older writers described as separate affections certain eruptions to which they gave the names of Erythema *papulatum*, *tuberculatum*, *circinatum*, *marginatum*, *iris*, etc. These have been included by HEBRA under the single, though comprehensive title of *E. multiforme*, under the belief that they were all essentially the same disease, and differ but slightly and accidentally from each other. This appears to be the most reasonable view that can be taken.

The eruption then of *E. multiforme* may consist of patches of redness, over which circumscribed elevations, also red, are scattered. These elevations may be few or plentiful, and may vary from $\frac{1}{8}$ " to $\frac{3}{4}$ " or more in diameter. The small ones may, according to size, be called papules or tubercles, while the larger ones which are always flattened, may assume the appearance of an elevated ring (*E. circinatum*), around which a second or third ring may develop (*E. iris*). Upon the flattened tubercles of medium size, vesicles are sometimes met with; hemorrhagic effusion may also occur within them (HEBRA).

These various lesions rarely persist for more than a few days, or at most for a week or so, at the end of which they gradually subside and disappear, leaving after them bluish stains which last a few days longer. After the disappear-

ance of the first eruption, or even while it is still in full efflorescence, a second crop of lesions may come out, and after this a third, prolonging the trouble in this way for several weeks.

The eruption may simply consist of what would be called papules, or of tubercles, or all of the lesions above mentioned may exist at the same time in varying proportions. The favorite seats of *E. multiforme* are the backs of the hands, wrists, the feet and ankles. The eruption, however, may occur upon any part of the surface, and sometimes becomes quite general.

SUBJECTIVE SYMPTOMS.—*E. multiforme* is sometimes characterized by prodromata of a mild febrile character which exist for a day or two before the appearance of the cutaneous lesions, and subside as the latter develop. The subjective local symptoms are usually slight, and may consist in a little burning or itching at the seat of the eruption, but rarely sufficiently intense to cause much inconvenience. The eruption is more frequent in spring and autumn than at other seasons, and in some individuals exhibits a tendency to recur at these times.

ETIOLOGY.—In some cases the eruption seems to be attributable to errors of diet, in others it appears subsequent to some traumatism, but in the great majority of cases it is impossible to discover anything that may be fairly regarded as standing in a causative relation. A few writers have imagined that it is a neurosis, a term which they conveniently apply to almost every eruption the nature of which is not definitely ascertained.

The *prognosis* of *E. multiforme* is favorable, as the affection usually runs its course in a few weeks at most, and is not followed by any sequelæ.

TREATMENT.—Erythema multiforme usually runs its course in two or three weeks, and in the majority of cases appears to be uninfluenced by treatment, and it is only in relapsing cases, and those which show a tendency to return at certain seasons of the year, that it is worth while to attempt much in the way of medication. In a case under my care two years ago, coffee appeared to be the exciting cause of an unusually prolonged attack. Relinquishment of this beverage was followed by permanent disappearance of the eruption. In a few cases of this sort the cause of the trouble can be discovered, but in the majority it can not, and one must be content to give a *placebo*, and wait for a spontaneous recovery.

ERYTHEMA NODOSUM.

Quite different from the affection last described is the one to which authors have given the name of Erythema *nodosum*. This disease is characterized by an eruption of reddish tumors from the size of a bean to that of an egg, and usually situated upon the lower extremity between the knee and ankle. For a day or two the depth of color increases, then becomes somewhat purplish, with the “black and blue” appearance which accompanies contusions, and finally passes through shades of green and yellow like an ordinary bruise. In consequence of this, the affection has received the name of *Dermatitis contusiformis*. A week or ten days may be occupied by these processes, and as the color changes, diminution of size takes place, and in about two weeks complete resolution is effected. Suppuration and ulceration very rarely occur. These complications, however, have been observed in scrofulous subjects (HARDY).

The number of the tumors is usually limited to three or

four, but may reach nine or ten. Although preferring the leg, the eruption has been met with upon the thigh, forearm and abdomen. The swellings are usually a little painful for the first day or two, but not afterwards. Relapses may prolong the disease for several months. Febrile prodromata occur in some, but not in all cases. The affection usually occurs in young females, and is frequently accompanied with menstrual derangements. In many cases, however, the affection is preceded by, or complicated with, arthritic pains. This has led many writers to believe the affection to be more or less closely connected with rheumatism.

ETIOLOGY.—Unknown.

HISTOLOGY.—The lesion is supposed to be due to an effusion of serum together with red corpuscles, or at least the coloring matter of the blood; but these points have not, I believe, ever been positively ascertained by dissection. The effusion rarely gives rise to inflammatory lesions, and never undergoes organization.

TREATMENT.—*E. nodosum* requires very little special treatment in the majority of cases. If it be preceded by febrile symptoms, these may require a little attention. Locally, nothing more is required than a simple evaporating lotion, as the *Lot. Plumbi et Opii*, or something similar. If the eruption, however, is accompanied with rheumatic symptoms, alkalies and colchicum will be appropriate.

CHAPTER XXXIV.

ELEPHANTIASIS (*Arabum*).

Elephantiasis is the name given to a disease characterized by great hypertrophy of the skin and subcutaneous connective tissue of the lower limbs and genitals.¹ The addition of “Arabum” implies that this affection received the name of “Elephantiasis” from the Arabic writers. It likewise serves to distinguish it from a different disease called “Elephantiasis” by the Greeks; this latter being the affection commonly known as Leprosy. Other names have been given to the affection we are about to describe, as Barba-does-leg, Bucnemia tropica (MASON GOOD,) Spargosis (WILSON), etc.

The affection is universal in its distribution, occurring in almost every country. In cold climates it is rare and sporadic, while in the tropics it is exceedingly common, especially in the island of Barbadoes.

COURSE.—The course and symptomatology of the disease vary somewhat in different cases. In the majority, however, the disease is ushered in by a febrile attack preceded by chill. These general symptoms are accompanied by an

¹ The name has, likewise, been applied to similar enlargements elsewhere (as of the nose, ears, etc.,) but it is doubtful if in these cases the process or the affection is the same as in the one under consideration.

inflammatory swelling of one of the legs, somewhat resembling a mild erysipelas. After a few days the febrile symptoms subside, followed by more or less complete disappearance of the local inflammatory trouble. As a rule, however, the swelling does not entirely disappear, but leaves the leg a little larger than before the attack. After a varying and uncertain period, which may be a few weeks or even months, a recurrence of the febrile attack takes place with renewed swelling of the limb. Again the abatement of these symptoms leaves the limb a little larger than before.

These phenomena are renewed from time to time, each recurrence being followed by a permanent addition to the size of the affected member. Later the febrile attacks cease, but the limb nevertheless continues to slowly enlarge until it may ultimately attain an immense size. Sometimes the affection is confined to the foot and ankle, or to the foot and leg, or again the thigh may be involved. Occasionally both limbs are affected, but as a rule the disease commences in one long before it appears in the other. In addition the scrotum or penis, or both, may likewise enlarge, *pari passu* with the diseased limbs, or the genitals may alone be affected. In the female the labia majora, to a less extent the labia minora, may undergo the same changes.

The hypertrophy of the affected parts in Elephantiasis Arabum, seems to be without natural limit, and can only be thoroughly appreciated by inspection of the cases themselves or of photographs. The limbs may attain a circumference greatly exceeding that of the waist, and the scrotum may form a pendulous tumor touching the floor, and weighing a hundred pounds or more. In like manner the labia may descend below the knees.

The color of the skin in the fully developed disease may be little altered from the normal, but is frequently darker. Its consistence is harder than natural, but without the stony hardness of scleroderma. It pits a little upon pressure, but not as readily as in ordinary œdema. The surface is in some parts smooth and tense, in others rough, harsh and tuberculated. Ulcerations may occur and abscesses form in the substance of the thickened skin, or a condition resembling eczema, with moisture and crusting, may be met with upon different parts. Deeper lesions may also occur, and the muscles and bones undergo pathological changes.

As a rule the disease is not accompanied with much pain, and the principal inconvenience connected with it is due to the great dimensions of the parts interfering with locomotion.

ETIOLOGY.—The etiology of Elephantiasis is obscure. KAPOSI appears to lay special stress upon local causes, as “varicosities of the veins, chronic eczema and ulcers of the leg, and cicatrices of all sorts, which compress the veins and lymphatics at one part, and therefore, predispose them at others, to dilatation, weakening, varicosity, etc., and thus maintain a local obstruction to the circulation and œdema. So, also, a thick bone-callus, the result of preceding fracture of the bone, scrofulous, syphilitic, traumatic ostitis, periostitis, necrosis and caries of the tibia, and exostosis of the same, are all well-known agents, which either by means of the accompanying chronic inflammation, or by pressure on the vessels, bring about an accumulation of the plasma and hypertrophy. . . . Lupus and syphilis, in the form of gummous infiltration and ulceration are, not infrequently, exciting causes of Elephantiasis.”¹

¹ HEBRA, *op. cit.*, Sydenh. ed., III., p. 146, London, 1874.

If every *big leg* is to be called Elephantiasis, the causes assigned by KAPOSI may be admitted without question, as capable of exciting the disease, and I am only surprised that he has not applied the name to the edematous limbs resulting from renal or hepatic disease, etc. Every enlarged limb, however, should not receive the appellation of Elephantiasis Arabum; but the term should be confined to a certain idiopathic disease, of the real etiology of which we are profoundly ignorant, but which seems to be specially prevalent in certain climates, and among certain races.

HISTOLOGY.—The histology of this affection has been very extensively investigated. I shall not, however, attempt to give at this time a complete analysis of all that has been done in this direction, nor even to cite the names of all the authors who have contributed to the subject, but shall briefly refer to some of the principal points only. Upon microscopical examination we find the stratum corneum sometimes greatly hypertrophied, but not very adherent. The rete Malpighii, on the contrary, is not much thickened, in fact, it is sometimes thinner than the normal. The papillæ are enlarged both as to length and breadth (Plate IV., Fig. 1). The connective tissue of the derma is increased in quantity, and its greatly enlarged wavy bands constitute one of the most striking features of the disease (Plate IV., Fig. 2). The derma is fused with the subdermal connective tissue so that no line of demarkation can be perceived. This latter is also greatly hypertrophied. KAPOSI locates the principal hyperplastic changes in the subcutaneous tissue and not in the corium, but when it is impossible to determine when the one ends and the other begins, as is frequently the case, this view must be received with some reservation. The *panniculus adiposus* is some-

times diminished, sometimes almost entirely wanting. The veins are enlarged and sometimes varicose. The lymphatics, also, have been found greatly increased in size, with sack-like projections. VAULAIR¹ has found hyperplasia of the nerve fibres, and the hair follicles and sebaceous glands sometimes present, sometimes absent. GAY² has found the sweat glands and ducts greatly altered. HATTUTE³ has observed soft cheesy masses of different sizes enclosed in a fine membrane, and situated in the subcutaneous inter-muscular tissue.

The anatomical features of Elephantiasis, therefore, appear to consist in a very exaggerated hyperplasia of connective tissue associated with (probably) secondary changes in the glands, etc. These are strong reasons for believing that the earliest lesions occur in connection with the lymphatics, and that inflammatory processes, together with some obstruction of these organs, result in an undue accumulation of nutrient fluids which stimulate the various elementary tissues of the skin to greater activity of growth, not counterbalanced by a normal degree of lymphatic absorption. The special organs connected with the skin are in some parts stimulated, but in others are atrophied in consequence of the pressure of the hypertrophied connective tissue.

TREATMENT.—Palliative and antiphlogistic measures during the febrile attacks are of course indicated, and quinine in large doses, alone, or in combination with opium, would seem to be the remedy most likely to control or moderate the symptoms. In the intervals between the paroxysms,

¹ Virch. Archiv., B. LIII, S. 292.

² Archiv. f. Derm. u. Syph., B. III, S. 489.

³ Rec. de Mém. de Med. Milit., t. XXVI, p. 112.

and in the later stages of the disease, internal medication appears to be without influence. If we expect to accomplish anything it must be by local measures of some sort.

In the early stages, during the periods just succeeding the febrile attacks, HEBRA'S plan of treatment seems most judicious. It is as follows: "After the inflammatory symptoms have been subdued by moderate local antiphlogistic measures, he uses cataplasms and tepid baths, or coverings of oil, adeps or ointments, in order to soften and remove the thick accumulations of epidermis and crusts which exist. When this is accomplished, inunctions of gray mercurial ointment into the affected parts are practiced, absorption being more easily effected after removal of the thick masses of epidermis. If it is in any way possible to promote the removal of the accumulated exudation, this method is preferable to any other. A horizontal, or somewhat elevated position of the affected extremity, in conjunction with inunctions, will, in such cases, certainly produce a marked improvement, which can be tested from time to time by measurement of the limb. By this procedure, the limb, which was previously painful, becomes so quiescent that compression of it by a bandage may be undertaken. A roller, only, must be employed, for the gypsum, starch, dextrin and liquid-glass bandages do not answer, because it is a necessary part of the treatment to re-apply the bandage as often as possible. The extremity, especially in the early part of the treatment, when there is a good deal of serous exudation present, which is easily absorbed, diminishes so quickly in bulk that the bandage, however firmly it may have been applied at first, begins to get quite loose even within twelve or twenty-four hours. Moreover, neither linen, nor even flannel, but cotton bandages must be em-

ployed. These are dipped in water and applied as tightly as possible, wherefore it is necessary to have the help of assistants during this manipulation. We begin the bandaging behind the toes and proceed in an upward direction in such a way that each turn overlaps the greater part of the preceding one. In this way, we can exercise very considerable pressure, which certainly would hardly be borne by people in general, but does not seem particularly to affect those who are the subjects of *E. Arabum*. It is merely necessary that the edge of the bandage does not press anywhere, and that if an indentation is noticed at any part it shall be filled up with charpie, or with a graduated compress. Nevertheless, the bandage will become slack even in a few hours, and in the course of half a day will be quite loose. After the removal of the bandage, we often find a diminution in the circumference of the leg to the extent of half an inch or an inch, and we then again apply the bandage tightly. Later, when serous infiltration is in great part removed, and the diminution of bulk proceeds more slowly, we may renew the bandage less frequently. If during this treatment, inflammation of the enveloped part should again arise, then we must immediately remove the bandage and employ cold, and subsequently tepid cataplasms and inunctions of gray ointment as before indicated.”¹

In advanced cases, compression of the femoral artery (VANZETTI),² and ligature of the same, (first performed by CARNOCHAN),³ have been recommended. This latter operation has been performed a large number of times with

¹ *Op. cit.*, Sydenh. ed., vol. III., p. 149.

² *Gaz. des Hôpitaux*, No. 144, p. 572, 1867

³ *New York Journal of Medicine*, Sept., 1852.

PLATE IV.

To face page 325.

PLATE IV—*Fig. 1.*—Section from Elephantiasis of the leg, showing hypertrophied papillæ and thinned rete, etc. $\times 20$.

PLATE IV—*Fig. 2.*—Section from Elephantiasis of the thigh, enlarged and wavy bands of connective tissue from the deeper part of the corium. $\times 100$.

Plate IV.



PIFFARD, PHOTO.

E. BIERSTADT, ALBERTYPE.

varying results, mostly unfavorable.¹ Two years ago I had an opportunity of trying elastic compression by means of ESMARCH'S bandage on a man under my care at the Charity Hospital, but owing to failure on his part to comply with the rules of the hospital he was discharged a week after this plan of treatment was adopted. The result, however, of even this brief application of the ESMARCH apparatus was a very decided diminution in the size of the limb. The treatment, therefore, appears to me worthy of more extended trial. It may be stated in reference to this patient, that SYME of Edinburgh had amputated his scrotum (weighing nine pounds) some years before, and that BAUER of St. Louis had tied his left femoral.

In Elephantiasis of the genitals, surgeons are united in opinion, that the only reliable treatment is amputation of the redundant parts. Amputation of the scrotum has been frequently performed, and usually with success. The steps necessary in the performance of this operation are very thoroughly considered by THEBAUD² in connection with the successful removal of an elephantiasic scrotum which weighed over sixty pounds.

¹ The statistics of the operation have been carefully collected by WERNHER (Deutsche Zeitsch. f. Clin. Chir., 1875).

² N. Y. Med. Journal, May, 1867.

CHAPTER XXXV.

KELOID.

This disease, first described by RETZ, in 1790, under the name of *Dartre de graisse*, and subsequently by ALIBERT, who first called it "*Cancroïde*"¹ but afterwards "*Cheloid*,"² has recently been very thoroughly discussed by FAGGE³ under the title of Keloid. FAGGE also calls attention to the fact that ADDISON has given the same name to an entirely different disease.

The affection we are about to consider is characterized by the development upon the skin of one or more flattish smooth-surfaced tumors of varying shape and size. In some cases the natural color of the skin is preserved, in some it is heightened, but more frequently is a trifle paler than the normal, or it may be quite white, often possessing

¹ Description des Mal. de la Peau, Paris, 1814. The following quotation will dissipate any doubt as to the identity of the disease which ALIBERT describes under this name: "Les Cancroïdes sont des excroissances carniformes tantôt ovalaires, tantôt oblongues, situées horizontalement sur une ou plusieurs parties des tégumens, d'une couleur rose pâle, parsemées de lignes blanchâtres et séparées les unes des autres, profondément adhérentes à la peau dont elles ne changent la couleur qu'à l'endroit élevé, imitant assez bien la forme des cicatrices qui succèdent aux fortes brûlures, poussant quelquefois vers leurs bords de petits prolongemens bifurqués, qui ont quelque rapport avec les pattes d'une écrevisse; ce qui justifie la dénomination que nous avons donnée à ces tumeurs extraordinaires."

² Précis théoriques de Mal. de la Peau, Paris, 1829.

³ Guy's Hospital Reports, London, 1868.

a marked cicatricial aspect. In fact, if it were not for its elevation, Keloid might often pass for an ordinary cicatrix. Sometimes arms or processes project from the main body of the tumor as thin bands into the surrounding skin.

The Keloid tumors gradually increase in size up to a certain point, at which further progress ceases. They then remain stationary for the rest of the patient's life. In very rare instances, as observed by ALIBERT and HEBRA, they undergo involution and finally disappear.

Keloid may arise spontaneously, or subsequent to some wound or local irritation of the skin, and writers have consequently distinguished two varieties of the affection; the one which originates spontaneously being called *true* Keloid, and the other *spurious*. This division might be wise from an etiological point of view, if we were always able to distinguish between the two by their aspect or course. This, however, we cannot do. If we were even able to obtain an accurate history, this division might prove advantageous; but this is not always practicable. We know as a fact that the so-called spurious Keloid may result from the most trivial wound as a leech-bite or pin-scratch; and it would be exceedingly difficult, in many cases of apparently true Keloid, to exclude the occurrence of an anterior traumatism of this character. In fact, it is within the bounds of possibility that all Keloids are of the variety termed "spurious," that is, of traumatic or irritative origin. As examples of the latter I have three times seen Keloid develop upon the face during the existence of mentagra (one case parasitic, two non-parasitic). In one of these the tumor yielded to treatment (frictions with ungt. potas. iod.,) in another it notably increased during a year or more that the case was under observation after the cure of the mentagra; in the third the result is unknown.

It would seem wiser then, for the present, to embrace under the title of Keloid simply, all of these cases, whether of traumatic or apparently spontaneous origin. The resemblance which certain hypertrophied scars bear to Keloid is another element of perplexity and is very properly considered by KAPOSI in this connection. In order to discover whether histological research¹ would throw any light upon the question, this observer has examined microscopically both varieties of Keloid and also hypertrophied scars.² His researches are interesting so far as they go, but are too limited in number to definitely settle the matter.

HISTOLOGY.—As a contribution to the subject I offer a single observation of my own. The specimen was from a remarkable case of traumatic multiple Keloid in a negro, a patient of Prof. MAURY,³ who removed several of the tumors, and kindly gave me a portion of one of them. Upon examination I found the stratum corneum thin and delicate, in some parts consisting of but two or three rows of cells. The rete was rather over-developed, the cells and nuclei being very distinct. The deeper cells well filled with pigment, as was to be expected in a negro. The papillæ were enlarged, with broad flat tops. The tissue beneath consisted mainly of bands of connective tissue not much, though somewhat, enlarged and running in all directions, with an apparent increase in the proportion of elastic fibres. Spindle and irregular cells more numerous and more distinct than is usual in adult skin. Here and there

¹ There are numerous accounts of the histology of Keloid, but as observers have generally failed to state the kind of Keloid examined, the results fail to aid us in the solution of the present question.

² HEBRA, *op. cit.*, B. II, S. I.

³ The history of the case, with photograph, has been published by MAURY in the *Photographic Review*, vol. I, Phila., 1870.

PLATE V.

To face page 329.

PLATE V.—Section from Traumatic Keloid of the neck (Professor MAURY's case), showing enlarged flat-topped papillæ, collections of small round cells in the corium, etc. $\times 40$.

Plate V



PIFFARD, PHOTO.

E. BIERSTADT, ALBERTYPE.

collections of small round cells not very closely packed together. In other words the mass presented the general aspect of mature tissue more or less infiltrated with that of newer formation, (Plate V).

ETIOLOGY.—The predisposing causes of Keloid are absolutely unknown. To the exciting causes we have already referred.

TREATMENT.—At first thought excision would seem to be an appropriate measure of relief, but experience has shown that in the great majority of cases the disease will certainly return, and often more extensively than at first. Excision, therefore, should not be regarded as likely to result in a radical cure, and should only be employed when the situation, or great size of the tumor, render its removal imperative, or when the temporary relief thus gained, more than counterbalances the inconveniences of an operation. Removal by caustics promises no better results than the knife. It must be admitted then that we are without any means, that can be relied upon, which will enable us to successfully control this curious disease. In view of this I would strongly urge the trial of galvanism by means of surface applications (catalysis), directly to the morbid growth; electrolytic needles should by no means be employed. The remarkable control which this agent possesses over hyperplastic changes under other and various circumstances, and which I have had frequent opportunities of observing, leads me to believe that, if properly applied, it might check, even if it did not diminish the size of the advancing lesion. I have not as yet had an opportunity of putting this idea in practice, but shall do so upon the first occasion.

CHAPTER XXXVI.

LICHEN PLANUS.

This is a somewhat rare disease, and appears to have been first recognized and clearly described as a distinct affection by WILSON.¹ I shall give the main points of his description verbatim.

“Lichen² planus is an eruption of pimples remarkable for their color, their figure, their structure, their habits of isolated and aggregated development, their habitat, their local and chronic character, and for the melasmic stains which they leave behind them when they disappear.

“The *color* of the pimples is a dull crimson-red, more or less vivid, and suffused with a purplish or lilac tinge. . . .

“In *figure* the papulæ are flattened, smooth and depressed on the summit, angular in outline, only slightly elevated, and of a size ranging between one and three lines in diameter; . . . the flatness is rendered more conspicuous by the summit of the papule being occupied by a thin, horny, semi-transparent lamina of cuticle, depressed on the surface, and marked in the centre by the aperture of a follicle which represents a sort of *hilum*. . . .

¹ Journal of Cutaneous Medicine, vol. III., London, 1869.

² WILSON habitually spells this word *leichen*. I alter the quotation by retaining the usual orthography.

"In *structure* the papule of Lichen planus is a hyperæmia with exudation, surrounding a follicle, and covered by a thin layer of horny transparent cuticle; while the aperture of the follicle and its conical epidermic plug are visible in the centre of the horny plate. The horny covering is in nowise a scale; it rises and falls with the papule, and neither separates nor exfoliates. . . .

"Lichen planus presents two principal forms of manifestation, *discrete* and *aggregate*. . . .

"The *habitat* of the eruption is also characteristic of the identity of Lichen planus; it is pretty constantly met with on the front of the forearm, just above the wrist; in the hollow of the loins; on the lower half of the abdomen; on the hips; around the knees, particularly over the mass of the vastus internus muscle; on the forearms and calves of the legs, and in women, around the waist, and in the grooves occasioned by the garters. We have seen it also, but less frequently, on the palms of the hands and soles of the feet; and in two instances on the tongue, the buccal membrane, and the mucous lining of the fauces.

"Lichen planus is essentially *chronic* and *local* in its habits. . . . In distribution it is generally symmetrical, but occasionally is limited to one side of the body; sometimes occurring on one side in the upper extremity, and on the other in the lower. It has no constitutional symptoms of its own, and frequently prevails with very little disturbance of any kind."

The *melasmic* discoloration of those parts where the eruption has existed and has disappeared, is well marked. The eruption is sometimes attended with slight, rarely with severe, itching, and occurs most frequently during the middle periods of life. WILSON regards the summer's heat as a predisposing cause.

It has been suggested by WILSON and others that Lichen planus is a mild variety of an affection described by HEBRA under the name of Lichen ruber. As I have met but few cases of *L. planus*, and have as yet failed to recognize any of *L. ruber*, I cannot speak with positiveness upon this point, but must for the present defer to the judgment of those who have observed both diseases. I am inclined to believe, however, that they are distinct affections.

In cases of pretty general Lichen planus I have been struck with the similarity of aspect which this eruption bears to many papular syphilides, and I have on one or two occasions hesitated for days, before arriving at a satisfactory diagnosis.

TREATMENT.—Concerning this, WILSON says: "Our first object should be to regulate the functions of the economy wherever any disorder may be apparent; in the next place we should endeavor to restore the vigor of the system by tonic remedies, such as bitters, quinine, nitro-muriatic acid, and chalybeates; and these objects being effected, we may finally have recourse to the tonic-nutritive operation of arsenic." Locally he recommends a lotion of the bichloride of mercury, two grains to the ounce of bitter almond emulsion. The eruption is frequently rebellious, but usually yields in the end to treatment.

TAYLOR¹ has recently contributed the result of his observations concerning Lichen planus, and has derived benefit from the use of oxidizing agents and alkaline diuretics.

LICHEN RUBER.

This name is given to an eruption to which attention was first called by HEBRA. The following description is an

¹ Archives of Dermatology, vol. I., October, 1874.

abridgment of the one which he gives in the first edition of his work.

The affection consists in an eruption of papules, which always remain such, never changing into vesicles or pustules, and never undergoing any modification except when the eruption of new papules changes a discrete into a confluent lesion. The papules always present an intense red color except when covered with scales. In the beginning the papules are miliary, and each covered with a fine scale. They never increase in size, but preserve their original volume throughout the whole course of the disease. Fresh papules may arise between the original ones, or at a distance from them. When the papules are in contact, they form continuous patches of variable size and contour, red, infiltrated and covered with scales. The entire surface may be invaded in this manner. In advanced cases the pruritus may be intense.

The condition of the general health varies with the extent of the eruption. At the beginning it may not be appreciably affected, but as the disease advances, the organic functions deteriorate and nutrition suffers. The appetite or sleep may not be much disturbed, but the subcutaneous fat gradually diminishes, until finally, the patient falls into a condition of marasmus, and at last dies. At least this was HEBRA's experience with thirteen of the first fourteen cases seen by him. The case which recovered did so while under the prolonged use of large doses of arsenic.

In the second edition of HEBRA's work, KAPOSI notes two forms of the affection, one answering the description already given, the other characterized by papules with depressed centres and pigment stains. These latter cases

were of milder character and did not terminate fatally. KAPOSÍ¹ recognizes the cases described by TAYLOR under the name of Lichen *planus* as identical with this second variety of *L. ruber*. FOX² describes *L. ruber* as a variety of *L. planus*, believing the two affections to be identical. BULKLEY³ expresses the same view, and suggests the unnecessarily long name of *L. ruber planus* for all these cases.

This view, that *L. planus* and *ruber* are identical, supported by such eminent authority, is very plausible and might be accepted as definitive, were it not for certain prominent facts which its advocates fail to satisfactorily explain. In the first place WILSON observed fifty cases of *L. planus* characterized by umbilicated papules and pigment stains, and which pursued a benign course. HEBRA observed fourteen cases without umbilicated papules or stains, most of which terminated fatally. It is hardly supposable that a careful observer like HEBRA would have overlooked the umbilications if present, or that WILSON should have met with mild cases only, and HEBRA with severe ones. Now, subsequent to WILSON'S publication, HEBRA and KAPOSÍ have observed a number of examples of a benign, umbilicated, papular eruption which they have included under their old name of "*ruber*." It does not follow, however, that because they have done this, that the two are the same disease. NEUMANN,⁴ in 1868, described the microscopical appearances of the original *L. ruber*, and BIESIADECKI,⁵ in 1872. those of

¹ Archives of Derm., vol. I, p. 124, 1874.

² Op. cit., p. 144.

³ It has been urged that difference of climate, etc., may account for the mildness of the affection in England. This, however, is offset by the fact that FOX has encountered several cases of genuine *L. ruber* with typical features.

⁴ Sitzungsber. der Wien. Akad., Wien, 1868.

⁵ Untersuch. aus dem path.-anat. Institute in Krakau, Wien, 1872.

the umbilicated eruption. As will be seen later these differ widely. Lastly, no one, so far as I am aware, has seen the transition of a typical *L. planus* into *L. ruber*.

HISTOLOGY.—NEUMANN found that the pathological changes involved nearly all the tissues of the skin and its appendages. The cells of the stratum corneum were ac-

Fig. 47.



Fig. 47—Lichen ruber (NEUMANN). Hair and root-sheath with hyperplastic projections.

cumulated in abnormal quantity, the rete was sometimes moderately, sometimes greatly, increased in thickness. The papillæ were enlarged, and their interiors filled with a coarse elastic network, which was more abundant than normal throughout the whole corium. The vessels were

enlarged. The ducts of the sweat glands were funnel-shaped and filled with closely-packed cells. The most characteristic changes, however, were found in connection with the hair follicles. The outer root-sheath in the normal condition is thicker at the upper than at the lower part of the follicle. In this affection, however, this condition is reversed, that is, the cells are found in greatest abundance at the lower part of the follicle, and send forth projections into the connective tissue giving the root-sheath somewhat the appearance of an acinus gland (Fig. 47). NEUMANN believes that at the bottom of the follicle, the outer and

Fig. 48.



Fig. 48—Vertical section through a papule of *Lichen exsudativus ruber* (BIESIADECKI), *a*, central atrophy; *b*, peripheral edematous part of the papule; *f*, thickened rete; *g*, enlarged papillae; *h*, atrophied rete; *c*, hair follicle; *d*, sweat duct.

inner root-sheaths, and the epithelial layer of the hair all participate in the hyperplasia. He also found the smooth muscular fibres hypertrophied.

BIESIADECKI found, in umbilicated papules, that at the site of the depression the rete was thinner than normal, and the papillae even atrophied, being principally diminished as to breadth (Fig. 48). The papillary vessels were narrow and

shrunk. In the rete above these altered papillæ he found roundish collections of closely-pressed red blood-corpuscles.

Surrounding these sunken parts he found the papillæ increased in size, with enlarged vessels and containing numerous cavities (*lucken*). The overlying rete was thicker than normal, with sharply-contoured cells possessing very distinct nuclei. Fine fibres (nerves?) leaving the papillæ, ramified among the cells of the rete, some of them even reaching the stratum corneum. Of the blood-vessels of the enlarged papillæ some were empty, others were filled with decolorized red corpuscles. The corium under the depressions was atrophied, but beyond this was hyperplastic, exhibiting the appearances found in most exudative affections. BIESIADECKI found other less important changes.

ETIOLOGY.—Unknown.

TREATMENT.—Entirely without experience in the management of Lichen ruber, I can simply mention HEBRA's treatment, which appears to consist in large doses of arsenic, continued until the patient is well, or the case becomes hopeless.

LICHEN SCROFULOSORUM.

This is another affection first clearly differentiated by HEBRA. It consists of miliary papules of a pale yellow or reddish-brown color, though sometimes the normal hue is preserved. The papules are disposed in groups, sometimes forming circles or segments of circles, beyond which pigmentary macules, marking the site of earlier papules, may occasionally be seen. The little elevations are always covered with fine scales. Pruritus is insignificant. The papules promptly attain their maximum development, but then persist unaltered for a long time. At last they gradually

disappear, after having existed for months or years. Sometimes tubercles resembling acne, and which may go on to suppuration, develop in the neighborhood of the papules. The epidermis between the groups exfoliates in fine scales. Each papule is situated at the orifice of a hair follicle, and forms an elevation consisting of a mass of epidermis. The horny cells present a normal aspect, except that they contain a larger quantity of entangled fatty matters than usual. After the removal of the semi-globular epidermic mass, which constitutes the papule, the open mouth of the piliferous follicle may be perceived with the naked eye. The eruption may occur upon any part of the body. In about ninety per cent. of the cases met with by HEBRA, other scrofulous lesions, as enlarged lymphatic glands, periostitis, caries, etc., were encountered. Pulmonary tuberculosis, however, was never present.¹

PROGNOSIS.—All of the cases treated by HEBRA recovered.

HISTOLOGY.—According to KAPOSÍ² the morbid process consists in an exudation of cells in and around the hair follicles and their sebaceous glands, and also in the papillæ surrounding the mouth of the follicle. These exudation cells also invade the root-sheath, and separate it from the wall of the follicle. When involution occurs, the cells undergo molecular degeneration, and are absorbed, and the affected parts resume the normal condition.

TREATMENT.—HEBRA recommends the use of cod-liver oil both internally and externally. Internally he orders (for an adult) an ounce morning and night before eating.

¹ NEUMANN (op. cit.) encountered pulmonary tubercles in children suffering from this disease.

² Sitzungs. der Kais. Akad., Wien, 1868.

Locally he applies the oil with a liberal hand, and so as to keep the affected parts constantly saturated. At the commencement of treatment four frictions a day should be employed, and the parts covered with flannel, later two in twenty-four hours will be sufficient. He found warm baths and vapor baths prejudicial. The diet should be nutritious and largely nitrogenous, and proper hygienic measures should be enforced.

CHAPTER XXXVII.

MOLLUSCUM FIBROSUM.

This name is applied to certain tumors of varied size and form, which sometimes appear upon the skin. A glance at the accompanying cut (Fig. 49) from a remarkable case described by OCTERLONY,¹ in which over two thousand of these tumors were present, will convey a better idea of the aspect of this affection than a page of text. In the majority of cases the tumors are far less numerous than in the one cited, while on the other hand they frequently attain a much greater magnitude. The course of the affection is essentially chronic and painless, and the tumors increase in size for a certain length of time, and then may become stationary. Occasionally they undergo retrogressive changes, and disappear entirely, or leave behind them flabby cutaneous purses from which the more solid contents have been removed. In form they vary from a simple semi-globular protrusion to a sessile tumor with a comparatively small pedicle.

ETIOLOGY.—Unknown.

HISTOLOGY.—The histology of *Molluscum fibrosum* has been investigated by many observers, and most of them unite in regarding the tumors in question as simple hyper-

¹ Archives of Dermatology, August, 1875.

Fig. 49.



Fig. 49—OCTERLONY'S case of *Molluscum fibrosum*.

plasie of the connective tissue without much alteration, other than accidental, of the other organs or tissues of the skin. FAGGE,¹ however, in a case under his care, was able to determine that the morbid process commenced in the tissues immediately connected with the sebaceous glands and hair follicles, and apparently in the follicular walls, and that the larger tumors were due to the occurrence of numerous foci of disease which by further extension of the hyperplastic process, united with each other.

Personally, I have had but one opportunity of examining this disease microscopically. The specimen was a flattened tumor, about the size of a pigeon's egg, given me by Dr. R. W. TAYLOR. The new growth was surrounded by a capsule, and had been enucleated without the removal of any of the skin with it. Upon dividing the tumor, it was found to be made up of three distinct lobes, separated from each other by a delicate areolar tissue. These lobes were composed of close, but delicate wavy fibrillar connective tissue of new formation, whose fibres had a somewhat concentric arrangement, and were plentifully supplied with large elongated nuclei. A few round and fusiform cells were present,—elastic fibres not found. The growth was a fibroma which had nearly reached its full histological development.

TREATMENT.—The only way of getting rid of these tumors is to excise them, which is of course only practicable when they are few in number.

MOLLUSCUM CONTAGIOSUM.

The so-called Molluscum contagiosum of authors (by the French usually called *acne variolique* or *varioliforme*)

¹ Medico-chirurgical Trans., v. LIII., London, 1870.

is not a variety of the affection last described (Mol. fibrosum), but is a special disease *sui generis*. It is characterized by the development of small umbilicated tubercles, or little tumors varying from the size of a millet-seed to that of a pea, or even larger, and are frequently pedunculated or sessile. Their color is usually that of the normal skin, but may be a little redder with sometimes a semi-transparent aspect. Upon some portion of their surface a slight depression can usually be detected, and from it a sebaceous-looking contents can be made to exude by pressure upon the base of the tubercle. These growths frequently appear upon the face, but are also found upon the neck, chest, back, limbs and genitals. They vary in number from three or four to twenty or thirty. When numerous, the tubercles do not all appear simultaneously, but successively, developing one after the other, for several weeks or months, so that in advanced cases they may be encountered in various stages. Once developed they may obtain a certain size, and then remain stationary for an indefinite period, or they may dry up and cornify, and the shriveled tubercle remain attached to the skin until removed mechanically. Finally inflammation and suppuration may result in discharge of the contents, and obliteration of the growth, or, more rarely, gangrenous processes may terminate its existence.

Molluscum contagiosum seems to affect by preference young females, but it has been met with in males and upon persons beyond middle age. The affection is unaccompanied with pain, or other subjective symptoms of importance, and appears to be entirely without influence upon the general health.

ETIOLOGY.—The etiology of Molluscum contagiosum cannot be considered as definitely settled. BAZIN considers

it a scrofulous affection¹ and declares that it is non-contagious. CAILLAUT² on the other hand, relates that it was once introduced into the *Hôpital des Enfants Malades*, and spread rapidly from bed to bed, until upwards of thirty of the children were affected. Other striking instances of apparent contagion are noted by different observers. The probabilities are then, that the disease is contagious, but whether the contagion resides in the secretion proper, or in certain parasitic spores as claimed by some, is uncertain.

HISTOLOGY.—Molluscum contagiosum has been examined microscopically by a large number of observers, and until quite recently they all agreed in locating the affection in the sebaceous glands, believing that the tumors were enlarged and otherwise altered glands, and that the whitish semi-transparent matter which exudes upon pressure was sebum, together with certain roundish or oval cells of peculiar aspect. These latter were called “molluscous corpuscles,” as they have not as yet been found associated with any other affection. By some they were supposed to be vegetable spores; by others, endogenous formations in the enchymatous cells of the glands (BIZZOZERO and MANFREDI.³)

More recently RETZIUS, C. BOECK⁴ and LUKOMSKY⁵ have investigated the question, and conclude that the disease is not located in the sebaceous glands, but in the rete Mal-

¹ “Ou a émis des doutes sur les rapports de l’acne varioliforme avec la scrofule, mais j’ai puis vous assurer que dans tous les cas soumis à mon observation, et a été facile d’établir la relation de cette affection avec les autres accidents de la scrofule.” (Leç. theor. et clin. sur les Affections Generiques de la Peau, t. I., p. 279, Paris, 1862).

² Archives de Medicine, t. XXVII, 1851.

³ Revista Clinica, 1871.

⁴ Viertelj. f. Derm. u. Syph., 1875.

⁵ VIRCHOW’S Archiv., B. LXV.

phii.¹ With the views of these latter observers I agree,² having recently had an opportunity of examining sections from a patient under the care of my friend Dr. GEO. H. Fox, concerning which I have been able to determine the following points. The growth consists of a nodule partly sunken in the corium, partly projecting above it. Its deeper outline is roundish. The neoplasm is divided into lobes, between which a fine connective-tissue stroma, sometimes accompanied with vessels, is evident. The central portion of the upper (external) surface is depressed and the stratum corneum is absent, or at least unrecognizable. The whole presents a rough resemblance to a racemose sebaceous gland, for which it was taken by the earlier observers. Upon closer examination the lobes are found to be filled with cells, not resembling either the enchymatous cells of the sebaceous glands, nor the normal cells of the stratum Malpighii, except upon the periphery, where are found cells resembling the cylindrical cells of the deep layer of the rete, with well-defined oval nuclei, their long axes being at right angles to the bounding line of the new growth. Internal to these we find cells of peculiar aspect which appear to be developed from rete cells³ in the following manner: The rete cells increase in size, their protoplasm undergoes certain changes (degeneration of some sort), and the nucleus is pushed to the edge of the cell,

¹ Upon page 220 of this book, already printed, I speak of *Molluscum contagiosum* as an affection of the sebaceous glands, but at the moment of writing (March, 1876), am satisfied that such is not the case, and here desire to make a correction of the previous statement.

² BIZZOZERO and MANFREDI have quite recently (*Centralblatt, f. d. Med. Wissensch.*, Feb. 12, 1876) acquiesced in the view that it is the rete and not the sebaceous cells that are involved.

³ LUKOMSKY believes that these peculiar cells are derived, not from the rete cells, but from wandering cells from the corium.

where it becomes deformed and atrophied, and ultimately disappears. Following this, certain round, oval, or irregular, not very refractile formations, make their appearance within the cell, looking like the condition called "vesicular degeneration."¹ These increase in size, and finally coalesce and occupy the entire volume of the cell from which all trace of nucleus has disappeared. They now constitute the so-called "molluscous bodies," and are imbedded in a connective-tissue reticulum, which appears to be a hypertrophy of that which is normally present in the rete. Reagents failed in my hands, as in those of others, to throw any light upon the nature of the transformations which take place. The true pathology of the affection, therefore, still awaits solution.

TREATMENT.—The tubercles of *Molluscum contagiosum*, when discrete, may be readily destroyed by shaving them at the level of the skin, then by pressure forcing out the remainder of their contents, and finally touching the base with nitrate of silver or tincture of iodine. When confluent, thorough applications of green soap, or stimulating preparations, such as the bichloride or bin-iodide of mercury, or carbolic acid, will excite sufficient inflammation to bring about their destruction.

¹ CORNIL and RANVIER.

CHAPTER XXXVIII.

PEMPHIGUS.

Pemphigus is a disease characterized by an eruption of *bullæ*, but under the same name have been included a large number of cases which have this symptom alone in common, and which differ among themselves in almost every other essential particular. For instance, the term *pemphigus* is applied to an affection of young children in which a bullous eruption occurs, runs an acute course,¹ and disappears in a few weeks, without relapse; secondly, to a bullous eruption affecting infants who are the victims of hereditary syphilis; thirdly, to a bullous eruption in infants and children which appears to be contagious or epidemic;² fourthly, the name has been applied to the case of a negro, who, after dining upon putrid eel's liver, was taken violently ill, an eruption of bullæ being among the symptoms, and in a few days died;³ fifthly, the name was applied, by a well-known dermatologist of this city, to an eruption of hemispherical and oval tumors upon a child, which tumors were composed of a white cheesy material retained by a thin covering of epidermis; sixthly, to an

¹ Steiner, Archiv. f. Derm. u. Syph., B. I., and others.

² HERVIEUX, Union Medicale, 1865. BROCHIN, Gaz. des Hôpitaux, 1874.

³ ANDERSON, Lancet, June 21, 1873.

eruption produced by the ingestion of Copaiva Balsam;¹ seventhly, to an *acute* eruption of bullæ in adults;² lastly, the name is applied to a certain *chronic* relapsing affection of adults. In fact, the name has been given to almost every eruption in which bullæ appeared, irrespective of nature, course or cause. It is manifest that all these cases cannot be examples of the same disease, and the impropriety of giving them the same name need not be dwelt upon. It seems to me expedient, therefore, to abandon this loose application of the word, and to give the term a more definite signification. I shall therefore confine it to the class of cases last mentioned.

The existence of a true acute Pemphigus was denied eighty years ago by BRAUNE, who writes: "Der wahre Pemphigus ist eine chronische Krankheit, als solche muss man ihn ansehen und beobachten, wenn man über seine Natur was Gewisses und Zuverlässiges sagen will;"³ was affirmed by von BRAUN, who says: "Der Pemphigus ist immer ein und dieselbe Krankheit, ob er chronisch, acut, mit einzelden oder truppenweissen Blasen auftritt, ist gleichgültig."⁴ The same difference of opinion exists to-day; many writers admitting an acute Pemphigus, while others deny it. In this respect I follow the example of HEBRA, who denies the propriety of giving the name of Pemphigus to any of the acute bullous disorders.

Pemphigus is characterized by the development of bullæ from the size of a pea to that of an egg, upon any portion of the body. The bullæ may be few in number, even

¹ HARDY, Gaz. des Hôpitaux, 1869.

² KÖBNER, Archiv. f. Derm. u. Syph., B. I., and HORAND, Annales de Derm. et de Syph., t. IV.

³ Versuch über den Pemphigus, S. 27, Leipzig, 1795.

⁴ Ueb. die Erkenntniss und Behandlung des Pemphigus, Freyburg, 1823.

solitary, or numerous. If many be present at a time, they may frequently be found aggregated in little groups of three or four together. Their contents are usually serous and transparent, but sometimes slightly opaque from admixture of pus.

Although one of the older authors, VON MARTIUS,¹ described no less than ninety-seven varieties of Pemphigus, and a modern writer fifteen,² it will be found more convenient and practicable to place all those which are properly entitled to the name in two groups, namely, *Ordinary* and *Foliaceous* Pemphigus.

ORDINARY PEMPHIGUS.

In this form the bullæ, well distended by fluid, persist unchanged for several days, at the end of which time they rupture, and discharge a thin, not very plastic fluid, differing in this respect greatly from the plastic exudation of eczema. Sometimes the uplifted stratum corneum re-applies itself to the skin, and remains in contact until the surface beneath is entirely healed and covered with a new epidermis. It is then shed and reveals a circumscribed reddened surface, which soon, however, regains its normal color. At other times, the covering of the bulla is detached soon after rupture, and displays a red and oozing surface. This becomes dryer, as a new-formed horny layer replaces the old, when the heightened color gradually fades. After the involution of the bullæ which marked the invasion of the disease, or even before they have entirely disappeared, fresh ones may arise, or on the other hand, several weeks or months may elapse before a recurrence

¹ Ueber den Blasenausschlag, Berlin, 1829.

² WILSON, On Diseases of the Skin, Am. ed., Phila., 1847.

of the lesion takes place. These relapses may be somewhat periodical, or entirely irregular, and may prolong the disease for an indefinite period. Finally, either spontaneously, or as the result of treatment, no more bullæ appear and the patient is well. This favorable termination, however, does not always occur, but the affection persisting for several years, the patient is carried off by some intercurrent or visceral disease. The autopsies of those who have died while suffering from Pemphigus do not exhibit any uniformity of visceral lesion.

FOLIACEOUS PEMPHIGUS.

This form, first described by CAZENAVE,¹ differs from the preceding in several respects. In the first place, the bullæ are never full of fluid, that is, the epidermic covering is not tense or stretched as in the other, but is somewhat flaccid. They also frequently attain a great size, sometimes forming slightly-elevated flat tumors as large as the palm of the hand. Several bullæ arising in close proximity may, by extension, become confluent, and unite to form a single one of considerable extent, the horny epidermis at the same time appearing to thicken greatly, whether by the formation of new horny cells, or by the simple agglutination of exudation, I do not know.

At first, the eruption is sometimes confined to a limited portion of the skin, but may invade the greater part of the surface during some period of its course. HEBRA likens the aspect of these cases to that of an extensive burn. The thickened epidermis may be stripped off in sheets as large as the palm of the hand, revealing a reddened surface covered with a whitish exudation, at times look-

¹ *Annales des Maladies de la Peau*, etc., 1844.

ing like a diphtheritic false membrane. This was specially noticeable in a case recently under the care of Prof. KEYES at the Charity Hospital.

COURSE AND PROGNOSIS.—At first the general health in Pemphigus may not be much affected, and in fact, throughout the whole course of the *ordinary* form may be pretty good, but in many cases, and especially *foliaceous* ones, there is marked debility, increasing with the progress of the affection, and sometimes accompanied with febrile movement at each fresh outbreak of bullæ. Even gastro-intestinal symptoms, loss of appetite, chronic diarrhœa, etc., may further complicate the affection and render the prognosis extremely grave. HEBRA regards the general prognosis of *ordinary* Pemphigus as in the main good, so far as ultimate recovery is concerned, but states that it is impossible in any individual case to divine either its probable duration or the character of its termination. *Foliaceous* Pemphigus he asserts is always fatal. The case of KEYES, however, already alluded to, and which I had several opportunities of observing, recovered.

HISTOLOGY.—HAIGHT¹ has found upon the microscopical examination of a pemphigus bulla from a woman who died with amyloid degeneration of the liver, spleen and kidneys, the following appearances: The covering of the bulla consisted of the elevated stratum corneum, separated by fluid from the rete Malpighii upon which lay a double row of flat cells. The lower cells of the rete, among which small cavities or *loculi* were present, were found somewhat elongated. The upper cells, however, were flattened, and with their long axes parallel to the surface. The papillary portion of the corium was somewhat swollen, the papillæ

¹ Sitzungsab. der Wien. Akad., 1868.

being increased in length and breadth. Their connective tissue contained cavities. The blood-vessels were slightly widened.

ETIOLOGY.—HEBRA, after discussing the various causes which have been assigned by authors, rejects them all. NEUMANN throws no light upon the subject. Fox simply remarks that "the causes of Pemphigus are involved in obscurity," and the majority of writers are equally at a loss to account for the eruption. A few, however, speak decidedly upon the subject, as a recent writer who declares the affection to be a neurosis, and caused by "nervous excitement, mental anxiety and debility, and disordered digestion," but who brings no evidence in support of his views. Personally I have met with not more than a dozen cases of genuine Pemphigus, and the study of these has failed to give me any settled convictions as to their etiology.

TREATMENT.—The majority of writers, and HEBRA especially, declare that there are no internal remedies which possess the slightest influence in checking the course of this disease, and believe that very little can be done for its alleviation, other than by baths, emollient applications, etc. HUTCHINSON,¹ however, states that he is uniformly successful in controlling and curing the affection, by means of the persistent use of arsenic. The very favorable results which he reports should certainly induce those who encounter the affection, to give this remedy a fair trial, together with the local measures above suggested. Beyond this I have nothing to recommend.

PURPURA.

Purpura is a term which has been used with a variety of meanings, all implying the occurrence of certain purple

¹ Med. Times and Gazette, 1875.

spots upon the skin, arising under the most diverse circumstances. It is expedient, however, to give the name a precise signification if possible, and to confine it to certain well-defined phenomena. I shall, therefore, use it to signify an eruption of small purple spots, unaccompanied with acute general disturbance, not produced by the impaired blood condition known as scurvy, not a complicating hemorrhage accompanying other definite diseases (hemorrhagic variola, urticaria, typhus, cerebro-spinal meningitis, etc., which being essential diseases, have notwithstanding received such absurd and unphilosophical names as *purpura variolosa*, *purpura urticans*, etc.,)¹ not accompanied by any known special blood change, not necessarily occurring in debilitated subjects, or persons surrounded by bad hygienic influences, but appearing in both sexes, at all ages except infancy, and in varied states, from extreme debility, to apparently robust health.

The affection undoubtedly consists in an effusion of red blood-corpuscles, due either to rupture of the capillaries, or to diapedesis. The macules vary from 2''' to 12''' in diameter, and are usually round, but the larger ones may be oval, especially upon the limbs. The spots at the moment of their appearance are bright red, and the color is not removable by pressure. Shortly, however, they become purplish, and subsequently undergo the changes of color that we are all familiar with, as the accompaniments of ecchymosis from contusion.

The eruption may occur over the whole body, usually sparing the face and scalp, but is commonly most marked

¹ I cannot protest too strongly against the way in which writers, especially the German, have loaded down dermatology with a mass of inappropriate names like these and numbers of others.

upon the extremities, and may be confined to them. The bulk of the eruption may appear simultaneously, or accessions may occur upon successive days. The spots go through their various changes without interruption, and resorption is complete in a week or ten days. After a variable period a fresh crop may appear, and this may occur a number of times. Hemorrhage from mucous surfaces, as the mouth, bowels, kidneys, genitals, etc., sometimes complicate the cutaneous affection. These hemorrhages may be so profuse as to seriously modify the prognosis, which is ordinarily good.

ETIOLOGY.—The causes of Purpura are exceedingly obscure. The following, however, have been assigned: Hepatic congestion (CAUTY), internal obstructions (BATEMAN), enlarged spleen (FUCHS), debility of nervous powers (WILSON), deficient or suppressed menstruation (CAZENAVE), etc. This last cause I have been able to verify in a recent case, in which an eruption of purpuric spots occurred twice in succession at the monthly periods, the menses being absent, but which did not return upon the re-establishment of the menstrual flow.

It has been asserted by some, that the blood in Purpura undergoes important changes, becoming thinner, etc., which predispose it to effusion; by others, that the blood being normal, changes occur in the walls of the capillaries which render them weaker, and unable to withstand the blood-pressure, and hence predispose them to rupture. Both of these views are purely hypothetical, being without positive evidence to support them. It is certain, however, that the affection is not due to the blood changes which take place in Scorbutus, an affection with which Purpura has been frequently confounded.

TREATMENT.—In cases of simple Purpura very little if any treatment is required, as the affection runs its course in a few days. When, however, the affection exhibits a tendency to relapse, effort should be made to discover the cause of the trouble, and to relieve it if possible. When accompanied by hemorrhages from the mucous surfaces the affection becomes serious, and every means capable of controlling the hemorrhage should be adopted. Great difficulty will be experienced in trying to effect coagulation of the blood by local astringents; they should, however, be employed when practicable. In addition, internal remedies, as the perchloride of iron, tannin, gallic acid, etc., which enjoy a high reputation as hæmostatics, should be given.

PRURIGO.

Prurigo and pruritus are terms which have come down to us from remote antiquity; but different writers have given them different significations, and many have employed them as if they were synonymous. This usage is of course confusing. Pruritus, as we have before said (p. 33) simply means *itching*, and is not a disease *per se*, but merely a *symptom*, sometimes of an organic visceral disease, sometimes an accompaniment of certain definite cutaneous eruptions, and sometimes a result of parasitic invasion. Prurigo, on the other hand, may with propriety be regarded as the designation of a *disease*. Many writers, however, employ it, not as the name of a single disease, but of several, calling the different ones *varieties*. Thus, WILLAN admits four varieties, and WILSON describes no less than six. If now these were all varieties of the same disease, this use of the term would be unobjectionable, but this is not the case, as there is no relationship whatever between the *P. mitis* and

formicans of WILLAN and WILSON, and the *P. senilis* of the same writers. It is better then, to confine the term, as HEBRA has done, to a certain definite affection which presents two varieties, it is true, a *mild* and a *severe*, and which correspond to the *P. mitis* and *formicans* of the older writers. The description which HEBRA gives of this affection is the most definite and satisfactory that has yet appeared, and I shall be obliged to draw largely upon it, as the disease is exceedingly rare in this country, and my own experience will not enable me to contribute anything of value to the subject.

The disease is characterized by an intense itching, and the development of small papules of the same color as the skin, or sometimes of a little deeper tint.

In all cases, it commences by the appearance of small sub-epidermic papules, more easily appreciable by touch than by sight, since they rise but little above the level of the skin, and do not differ from it in color. They are always isolated, and though they may appear almost everywhere, there are still some regions upon which they are never found. They give rise to a good deal of irritation, and in consequence of scratching, become a little more elevated, and of a redder color. Repeated scratching destroys their epidermic covering, and permits the discharge of a transparent or yellowish serum, or if the papillæ be wounded, the escape of a droplet of blood which forms a minute blackish crust upon the summit of the papule. As the papules exist in considerable number, this process repeated in them all, produces the aspect to which the name of ordinary prurigo may be given.

When, however, the affection has lasted some time, new phenomena are added to those already mentioned. In-

creased pigmentation of the skin, gradually increasing and corresponding to the location of the *scratch-marks*, become a prominent feature. The natural lines and furrows of the skin become more widely separated, and more distinct than in the normal condition; specially noticeable about the fingers, the backs of the hands and wrists. The downy hairs are torn out by the scratching, or broken off and disorganized, and the skin itself is harder and thicker than in health.

In many cases these phenomena, developed to a greater or less extent, constitute the main features of the disease even after many years' existence; but in other and more exceptional cases, graver symptoms are manifested.

In the second form, which HEBRA terms *P. agria seu ferox*, the first peculiarity is that all the symptoms before mentioned become exaggerated. The papules are larger, the itching more intense, the excoriations more severe, and the number of blackish blood-crusts increased. In addition, we observe a more general brownish pigmentation, and a detachment of the superior layers of the epidermis under the form of a whitish, branny desquamation, simulating the appearance of the *Pityriasis nigra* of WILLAN, or the *nacreous Ichthyosis* of ALIBERT.

In some cases of this ferocious form of Prurigo, a severe eczema may develop over the entire surface, or over the parts principally affected, and mask to a considerable degree the primary affection. In other cases the fluid contents of the papules may become purulent, and give place to pustules whose secretion dries into crusts. If they become confluent, the crust may attain a considerable size, accompanied with engorgement of the neighboring lymphatic glands

The *course* of the disease, whether in the mild or the severe form, is exceedingly chronic; and in HEBRA'S experience the disease persists throughout the whole life-time of the patient. It does not, however, seem to exert any direct influence upon the duration of life, or to become an exciting cause of any visceral disease.

The pruritus may be so intense as to deprive the unhappy sufferer of the pleasure of society, and even render life a decided burden, leading in one instance, according to HEBRA, to suicide.¹

Though the affection is never congenital, it may occur in early life, and even in infancy,² gradually increasing in severity as the patient grows older. The disease is more frequent in males than in females, and usually more severe in winter than in summer.

ETIOLOGY.—Unknown.

PROGNOSIS.—Although the disease may be considered incurable, much may be done in some cases, by appropriate treatment, in the way of relief.

HISTOLOGY.—The microscopic appearances of Prurigo have been studied by DERBY,³ NEUMANN⁴ and GAY.⁵ The observations of the latter are the most recent and complete, and will be given in brief.

In mild cases he found the rete thickened by an increased number of cells; as many of them were strictured and

¹ I have met with a patient who told me that he had tried remedies innumerable without benefit, and gravely assured me that if I offered him no prospect of relief, he would certainly terminate his sufferings without my assistance.

² I think my saddest dermatological experience has been the sight of a child of eighteen months, who suffered severely from Prurigo, and whose fingers had even become deformed from constant employment in scratching.

³ Sitzungsber. der Kais. Akad., Wien, 1868.

⁴ Op. cit.

⁵ Archiv. f. Derm. u. Syph., B. III., —I., 1871.

exhibited two nuclei, the mode of increase was probably by fission. In more advanced cases the upper and middle cells of the rete became horny, and partook somewhat of the character of the cells of the stratum corneum, and the line of demarkation between the rete and horny layer was not well defined. The papillæ were enlarged, and their vessels were increased in size, and possessed hypertrophied walls. The vessel-walls, together with the underlying corium, contained numerous round, spindle and branched cells, some possessing two or more nuclei. There were protuberances of the outer root-sheaths of the hairs, as previously noticed by DERBY, situated near the insertion of the arectores pilorum. These muscles were hypertrophied, sometimes to double their natural size.

The cells lining the sweat follicles were greatly altered. Instead of a single layer of cylindrical or cuboid cells, he found small cells three or four rows deep. The sebaceous glands were not particularly affected.

TREATMENT.—Although HEBRA has found the disease incurable, he has nevertheless been able to obtain great amelioration of the condition of the skin by judicious and persistent treatment. Internal treatment whether by arsenic, mercury, etc., was useless, but local measures calculated to soften and hasten the desquamation of the superficial layers of the skin were of service. Baths of all sorts, warm, cold or vapor, were of the first importance. In addition, thorough applications of green soap as used in psoriasis (*q. v.*) were frequently employed. Sulphur, whether used in the baths, in ointments or soaps, was found very useful, and VLEMINCKX's solution (p. 190) was likewise employed. The various preparations of tar, ol. Cadin, ol. rusci, creosote, etc., possessed a marked influence in

diminishing the irritation. In short, the treatment of *Prurigo* is essentially the same as the external treatment of psoriasis.

CHAPTER XXXIX.

SCLERODERMA—SCLERIASIS.

In 1845, THIRIAL published a memoir entitled "*Du Sclerème chez les Adultes*," in which he described some cases of a peculiar affection of the skin possessing in common, one prominent feature, namely, a peculiar hardness and inelasticity of the integument, well expressed in English by the common term "hide-bound." Since then a large number of somewhat similar cases have been reported under analogous titles, as Scleroderma, Scleriasis, Sclerosis, etc. A careful study of them, however, will show that though possessing one or two features in common, they are, on the other hand, attended by circumstances which would seem to indicate that certain of them have little, if any, pathological resemblance to, or connection with, the others; that, in fact, two distinct affections have been confounded under the same, or similar names.¹

In one of these diseases the lesion is exceedingly chronic, and spreads from one or more points in patches or bands. It may occupy years in its progress, and is uninfluenced by the usual therapeutic agencies. It exhibits well-marked pathological changes.

¹ This opinion I expressed in 1871 (N. Y. Medical Gazette, June 24), and was not aware at the time that HEBRA (op. cit., B. II., L. I., S. 82), had the year before intimated a similar possibility.

In the other affection, the invasion is rapid, and the lesion extensive, the whole of the upper part of the body becoming involved in a few weeks or even a few days. Recovery may take place under the most varied treatment, or even spontaneously. Under the microscope, sections of the skin present a normal aspect.

The first of these cases may retain the name of Scleroderma and will be illustrated by the following case.*

SCLERODERMA.*

CASE X.—Johanna A., born in Germany, aged 29 years, came to the Dispensary for Skin Diseases on the 20th of Dec., 1870, with the following history: Two years and a half before applying to the dispensary, she discovered that the skin behind the left malleolus was hard and unyielding like the calloused skin of a working man's hand. This condition continued, and began to spread up the outer side of the leg in spite of every treatment. She occasionally suffered from pain in the affected limb, but the chief complaint was on account of the impaired mobility and strength of the member. There had been no appearance of the morbid condition upon any other part of the body. The general health was good.

On examination, I found that the skin behind the malleolus was hard, white, and its outermost layers disposed to loosen and curl up; these, however, could not be entirely removed without inflicting great pain. The skin was firmly bound down to the subjacent tissues, and tightly stretched, as it were, over the malleolus.

Above the ankle, the skin continued to present a sclerosed character, but appeared to be thicker than normal. As it was immovably attached, however, to the tissues beneath, its exact thickness could not be determined. This condition extended to the upper third of the leg, and occupied the greater portion of its exterior and posterior aspects. At the lower portion of the leg the peronei could not be distinguished from the neighboring border of the fibula. The surface of the skin was somewhat heightened in color, and pre-

* Previously published by me in 1871 (*Med. Gaz.*, loc. cit.)

mented a slight tendency to the exfoliation of epidermis. Sensation tested by the æsthesiometer indicated equal tactility as compared with corresponding points upon the other leg, but there was increased sensibility to pain, especially in the parts most profoundly altered. The temperature of the parts, as ascertained with a SEGUIN'S surface thermometer, was 58° F. behind the malleolus ; 74° at the middle ; and 81° at the upper part of the leg. Corresponding points upon the healthy limb indicated 74.5°, 78°, and 84° respectively. Above the knee the thermometer registered 89° upon each limb. Four and a half inches above the ankle, the left leg measured seven and a half inches in circumference, and the right eight inches. The shrinkage was apparently due to muscular atrophy from want of use.

Treatment was commenced upon the 20th of December, by the application of the positive rheophore of a constant-current (galvanic) battery to the upper part of the left leg, and the negative was moved slowly over the affected parts. The applications lasted from five to ten minutes at each sitting, and were repeated upon alternate days. Perceptible improvement was manifest after the fifth or sixth application. Improvement continued, and the patient was presented at the January and February (1871) meetings of the New York Dermatological Society. By the middle of March, the skin above the malleolus had resumed its normal aspect, and was freely movable upon the cellular tissue. The portion which lay immediately over the malleolus was also freely movable over the bone, and its cicatricial appearance was somewhat modified, having lost to some extent its dead-white color. Considering the dermic condition as substantially well, faradization of the gastrocnemius and other muscles was commenced. This was continued for a few days only, as the patient felt herself so much recovered that she did not deem it worth while to attend the dispensary any longer.

Scleroderma may appear upon almost any part of the body, having been observed upon the face, neck, upper and lower extremities and elsewhere. It commences, undoubtedly, though this has not been clearly determined, by a circumscribed infiltration of the skin and subcutaneous tissue. I am not aware that any cases of Scleroderma

have been seen at the very inception of the disease, and we are obliged to judge of the conditions then present, by observations at the advancing margin of the lesion. The part affected is slightly elevated, and the skin of a brownish-red color, with a very slight tendency to furfuraceous desquamation. Upon touching the part it conveys to the finger a sensation of hardness, and the skin is found to be cemented to the subcutaneous tissue, and the whole tightly bound down to the muscles, or to the bones if they are near the surface. If we attempt to pinch up the skin in folds, the effort will be as futile as if we tried to pinch up the paint from a board, or the bark from a tree. The surface temperature is lowered; KAPOSI states from 1.8° to 2.7° F. below that of corresponding healthy parts. I have found the difference even greater.

As the lesion gradually advances, the portions first affected undergo a change. The elevation subsides, and gives place to a depression, the heightened color disappears, and is replaced, first by a normal, afterward by a much paler hue, and finally by a glistening white. In other words, the hyperplasia which first appeared is succeeded by atrophy. The tightness of the skin, its close approximation to the bone, and its absolute non-mobility become even more striking than in the early stage. If the lesion be situated upon the hands and feet, the shrunken integument may induce permanent contractions of the fingers and toes, with more or less deformity, a condition to which attention has of late been specially directed by LAGRANGE.¹ Sclerosed bands and patches may appear upon several parts, and by gradual extension a very large portion of the

¹ De la Sclérodermie avec Arthropathies et atrophie osseuse, Paris, 1874.

surface may become involved, as in a case reported by DAY.¹

When limited in extent, Scleroderma does not appear to be specially prejudicial to life or health, but when extensive, may be associated with visceral and other internal changes, capable of inducing a fatal result.

ETIOLOGY.—The causes which lead to the production of Scleroderma are entirely unknown.

HISTOLOGY.—A limited number of cases have afforded material for the study of the histology of this disease. The following microscopical changes observed by Dr. H. C. ENO in sections taken from DAY's patient after death, agree in the main with those described by other observers. ENO found "no changes in the horny epithelium, or in the rete mucosum, with the exception of a pigmentation of the deepest layers of cells. This pigmentation was very marked in the skin of the back and popliteal region, less so in that of the chest. Papillæ and upper part of the corium presented no lesions; small vessels and capillaries normal, but contained an unusual quantity of blood; the sweat-tubes, hair follicles, and sebaceous glands healthy. In the deeper portions of the derma there was an abnormal increase in the quantity of fibrous tissue. This increase was gradual, and there was no decided line of demarkation between the corium and the subcutaneous connective tissues. Deeper still the field was entirely occupied by bundles of dense fibrous tissue, crowded closely together, and intermingled with elastic fibres which also were increased in quantity. The bundles ran, for the most part, parallel to the surface of the skin, but were interlaced, so that, in sections, some bundles were cut longitudinally,

¹ American Jour. of Med. Sciences, April, 1870.

others transversely, and others diagonally. It was this enormous development of fibrous tissue which accounted for the abnormal thickness and toughness of the skin. Here the convoluted sweat-glands, though the subject of no further pathological change, were crowded into spaces too small for them, and took an oval shape. The subcutaneous adipose tissue existed in very small quantity, and was crowded into oblong spaces between the layers of fibrous tissue; fat-cells much shrunken, had lost their rounded form, and showed the nucleus plainly."

TREATMENT.—The treatment of Scleroderma has thus far been very unsatisfactory. No internal remedies so far as known are capable of checking or modifying the affection. Locally, emollient applications of various sorts have been employed with, in some cases, apparent benefit. The constant current made use of in the case related, was certainly followed by decided changes of a favorable character. A similar case, reported by FIEBER,¹ antedating my own by some months, was likewise improved by electricity. This agent would therefore seem to be capable of affording relief in some cases, and the facts encourage its further trial.

SCLERIASIS.

In contrast to the disease just described, I present the following history of a case² which I cannot help believing is an example of a different affection, and to which I have consequently given a different but somewhat similar name.

CASE XI.—DAVID G., a native of Ireland, aged 49 years, and a blacksmith by occupation, came under the care of Dr. E. G. JANE-

¹ Wiener Med. Wochenschrift, Nov. 26, 1870.

² First published in the Med. Gaz., loc. cit.

WAS in the early part of the year 1869, suffering with emphysema of the lungs and chronic bronchitis. He remained under the care of Dr. J. for more than a year without presenting any novel or peculiar features; but about the 1st of March, 1870, he noticed a stiffness on moving his neck. This was soon followed by a similar condition affecting the arms, back, chest, and abdominal region. The affection reached its height in about ten days, and then remained stationary for about four weeks longer, when it began to slowly decline. In April, Dr. J. kindly sent the case to me, and it came under observation about six weeks after its first appearance. Upon examination I found the integument of the parts above mentioned to be firmly adherent to the tissues beneath, but not discolored. It was impossible to lift or pinch it up into folds, or to cause it to glide over the underlying connective tissue. The patient was free from pain, and only complained of the inconvenience of being encased in an inelastic covering, which impeded the movements of his arms, and compelled the abandonment of his occupation. With the exception of his pulmonary difficulty, his organs and functions were in a normal condition. Careful inquiry failed to throw any light upon the determining cause of the attack, except perhaps frequent and sudden changes of temperature; for he stated that when overheated at the forge, he sometimes stood in a draught at the door to cool himself. Hoping and expecting to obtain information concerning the morbid changes with the aid of the microscope, I removed with the cutisector, a thin section of skin from the left side, an inch or so above the crest of the ilium. This spot was chosen, as it presented the most marked alteration, the affection having commenced to subside upon the upper portion of the chest and arms. The section was examined first in serum, and afterwards prepared and mounted in damar. To my surprise I was unable to detect any abnormal appearances.

The patient was placed upon small doses of quinine, in addition to the remedies prescribed by Dr. J. for his pulmonary difficulty, the quinine being given as a *placebo*, and to satisfy him that something was being done for his skin, rather than with a view to therapeutic result. The affection gradually subsided, and in three months recovery was complete.

The peculiarities of this case as distinguished from the

one previously recited, are its rapid invasion of a large portion of the surface, its apparently spontaneous recovery, and the absence of appreciable histological change. These would seem to me to be sufficient to warrant its consideration as a separate affection, and as such entitled to a different name. Many of the cases of Scleroderma heretofore reported have been of this description, and should have been earlier recognized as essentially differing from the chronic, almost incurable, and sometimes fatal disease to which alone I would confine the name Scleroderma.

ETIOLOGY.—The etiology of this affection is as obscure as that of true Scleroderma, its extreme rarity preventing any one observer from studying a sufficient number of cases to enable him to form an opinion of any value upon this point.

TREATMENT.—Scleriasis, in the majority of cases that are recorded, seems to tend toward a spontaneous recovery. This may be doubtless facilitated by baths, frictions, *massage* and the like; but it is doubtful if there are any internal remedies which have any special influence upon the course of the affection.

CHAPTER. XL

STROPHULUS.

As Fox justly remarks, "the strophulus of authors is an incongruous mixture of diseases." That is to say, the name has been applied to a number of different and unrelated conditions. We must therefore abandon the term entirely, or else confine it to some one definite affection. I shall consequently use it in connection with a certain papular eruption usually met with in infants, and known by the common names of "red-gum," "gum-rash," "tooth-rash," etc.

Strophulus usually appears during early life, and is characterized by the appearance of small papules scattered over the surface. They vary from a pin's head to a millet-seed in size, and frequently appear upon the face, as well as upon the trunk and limbs. The papules are usually red, though whitish ones may sometimes be found scattered among the others, or in fact, may constitute the main feature of the eruption. Pruritus, usually not very severe, is a frequent accompaniment.

There appear to be two forms of Strophulus; one, occurring a few days after birth, in which the papules are quite small, red, and with barely perceptible elevation, and sometimes accompanied with scattered erythematous patches.

The eruption reaches its height in two or three days, persists a few days longer, and then gradually disappears, its whole course being completed in one or at most two weeks. There is probably a certain amount of local irritation which makes the child uneasy and restless. This affection is very frequent, but is a trivial affair, and rarely calls for any treatment.

The second variety is frequently developed during the early periods of dentition. In these cases the papules are larger, the itching greater, and the affection may persist for several weeks; at the end of which time it gradually subsides, to be followed occasionally by a second or third attack.

Fox believes the affection to consist in a congestion about the mouths of the sweat-follicles, a view which is probably correct.

The causes of *Strophulus* are obscure. It may possibly be due in the first variety, to the unaccustomed contact of the tender skin of the new-born infant with the air, or to the irritation of acrid soaps, of flannel garments, or from over-excitement of the perspiratory function, by too much warmth, or too heavy clothing. In the second variety it results perhaps from unsuitable clothing, uncleanness, etc., or possibly is a reflex manifestation of gingival irritation.

TREATMENT.—Very little if anything is required in the way of treatment, except the removal of the causes which produced it, if they can be discovered, together with means calculated to allay the local irritation. For the latter purpose alkaline and emollient baths frequently prove useful.

VITILIGO.

This name, in ancient times, was applied to several distinct conditions, but at the present day is almost universally

confined to an affection characterized by localized disappearances of cutaneous pigment. It must not, however, be confounded with the congenital anomaly or deformity, to which the name of Albinism is applied. In this latter affection, the rete cells have never contained pigment, and the affection may be considered as an arrest of development, which may be complete or partial, that is, the child may be born with a skin entirely deprived of pigment, or the absence of pigment may be confined to certain portions only. In Vitiligo, however, the affection is not congenital, and may not occur until adult or advanced life.

The occurrence of Vitiligo becomes manifest by the appearance of small, circumscribed, pigmentless spots, the color of which varies from a dead white to a faint rosy hue, the particular tint depending upon the amount of blood circulating in the part. The hair, if there be any upon the spot, loses its color and becomes white. These unpigmented spots are in strong contrast with the neighboring skin, which may preserve its normal coloration, or, as is frequently the case, exhibit an excess of pigment, the greatest excess being close to the circumference of the affected patch. It would seem that in these cases the pigment is taken up and removed from the centre, to be deposited at the margins, and that these changes continue as the disease advances. The appearance of one spot is usually followed by the development of others, which gradually increase in size, and if situated near each other may coalesce, giving rise to a large patch of irregular outline. If the tendency continues, the greater part of the integument may become involved. With the exception of the loss of normal coloration, the affected portions do not present any other anomaly, but appear to preserve their

other functions unimpaired. The parts most liable to the first invasion of the affection are, in my experience, the face, hands and genitals.

The affection once developed may increase indefinitely, or the affection may at any time come to a stand, and no further extension of the disease occur, and the discolored patches remain such during the rest of the patient's life. I am not aware that they ever spontaneously regain their normal color. Vitiligo has been seen in both the white and black races, and it is probable that it occurs as well in those of intermediate tint.

ETIOLOGY.—The causes of Vitiligo are extremely obscure, in fact, unknown. Some writers, however, pretend that the affection is a neurosis, but this is pure hypothesis unsupported by any valid evidence whatever, and appears to be advanced by those who are willing to apply this term to nearly all the affections of the skin which they do not understand.¹ The fact is, we know nothing about the matter whatever.

HISTOLOGY.—G. SIMON,² the only observer who has examined this affection microscopically, found, as was to be expected, simply absence of pigment in the deep cells of the rete. How this disappearance of the pigment is

¹ It may be stated that the term *neurosis* as used in connection with cutaneous diseases at the present day, is just about as comprehensive and as scientific as the word *amaurosis*, as employed in ophthalmic medicine thirty years ago. The tendency should be to restrict, rather than extend, the use of this term, and those who do otherwise, lay themselves open to the suspicion that the name is simply used as a cover for ignorance. The proper course is to frankly state that the affection is of *uncertain nature*. If a dozen or more authors, one perhaps following the other, say that a certain disease is a neurosis, those who come after are apt to consider the matter as settled, and refrain from further investigation. On the other hand, if it is distinctly stated as doubtful, research for the real cause is stimulated, and may in time be rewarded by its discovery.

² Op. cit., p. 63.

brought about is not very clear. KAPOSÍ appears¹ to believe that there is no pathological change in the pigment itself, nor in the cells which contain it,² but that cells which were once pigmented, carry their pigment with them in their natural progression outward (which I do not believe occurs, *v. p. 7*) until finally desquamated, and that the new cells behind fail to extract from the nutrient fluids the substances necessary for the formation of a fresh supply. This view fails to account for the excess of pigment at the margins, and does not appear to me to be at all probable. It seems more reasonable, therefore, to suppose an alteration both of the pigment, and of the deep rete cells, which permits the direct absorption of the former, and prevents the accumulation of pigment by the latter. The pigment absorbed from the rete cells of the affected patch enters the capillaries, sanguineous or lymphatic. The fluid of the capillaries in this way becomes unduly enriched in pigment matter, which, through the free inosculation of the vessels, may be brought in contact with the normal rete-cells of the

¹ His views are not very clearly expressed, and I am not sure that I represent them accurately.

² He says: "Mann darf aus diesem anatomischen Befunde jedoch keineswegs den Schluss ziehen, dass der Verlust des Pigmentes an Stellen, an denen es früher vorhanden war, durch eine entsprechende Veränderung des Pigmentstoffes selbst; oder durch eine organische Veränderung der die Pigmentkörner bergenden Zellen der Schleimschicht bewerkstelligt werde."

He continues: "Für die Annahme einer selbstständigen Rückbildung oder auch nur Veränderung der Pigmentkörner fehlt jegliche Thatsache der Erklärung. Bekannt ist nur, dass das Blutpigment (Hæmatin, Hæmatoidin) durch gewisse *chemische Reagentien* theils sich zum Leichtgelb aufhellt, theils sich auflöst." This last paragraph contains one positive, and one probable error. The first is in calling the blood-pigment hæmatin or hæmatoidin, for since FUNKE, we have known that it is an entirely different substance to which the name of hæmoglobin has been given, and of which the others are but decomposed products. The second is in supposing that the skin-pigment is derived from the blood-pigment; the probabilities being that it is the same as the pigment of the choroid, namely melanin, which no one has yet been able to produce from hæmoglobin.

neighborhood. These cells, finding an increased supply of pigment, appropriate more than their usual allowance, and give rise to the darker margin which surrounds the Vitiligo patch.

TREATMENT.—FOX¹ says that "*treatment* is sometimes successful. A nutritious diet, a course of tonics—arsenic, iron, or the mineral acids—the correcting of any of the ill effects of the action of malarial poison, residence in a cool locality, and avoidance of fatigue, generally conduce to improvement. Locally, the use of friction and cold bathing, with iodine baths, are the best remedies." I give this statement at length as Fox is almost the only author who offers any encouragement in the treatment of this affection. *Per contra*, KAPOSI says: "We are not able to cure Vitiligo by any of the remedies or means at our disposal," but suggests that the striking contrast between the pigmented and unpigmented parts, may be lessened by the use of such blistering preparations as will remove the color from the rest of the surface² (*vide treatment of chloasma*, p. 254). This is such an extraordinary idea that we can hardly believe it is offered for serious consideration.

Personally, I have never attempted any treatment whatever in the cases of Vitiligo which have fallen under my notice. If the patient is suffering from any manifest deterioration of health, the relief of this condition may check the further progress of the affection. If, however, he is in other respects in good health, and the discoloration is extensive and progressing, it will be well to allow the process

¹ Op. cit., p. 402.

² "Wir sind jedoch im Stande die die weissen Flecke begrenzenden *braunen* Flecke ihres Pigmentes zu berauben. Dadurch wird die ganze Hautfläche gleichmässig pigmentlos, weiss, und das entstellende 'Scheckigsein' ist verschwunden."—Op.cit., B. II., S. 132.

to go on to complete whitening of the surface ; but if, on the other hand, there are only a few small circumscribed spots, and the progress of the disease has ceased, we may use repeated *sinapisms* with the expectation of restoring a certain amount of color, more or less permanent, to the parts. The increased color produced by mustard and certain other substances, is probably an *hæmatic* staining (perhaps a deposit of hæmatin), similar to that which succeeds old eczemata of the legs (*vide* p. 147), certain syphilitic lesions, etc., and not an accumulation of the *melanic* granules which constitute the normal pigment of the skin.

THE END.

INDEX.

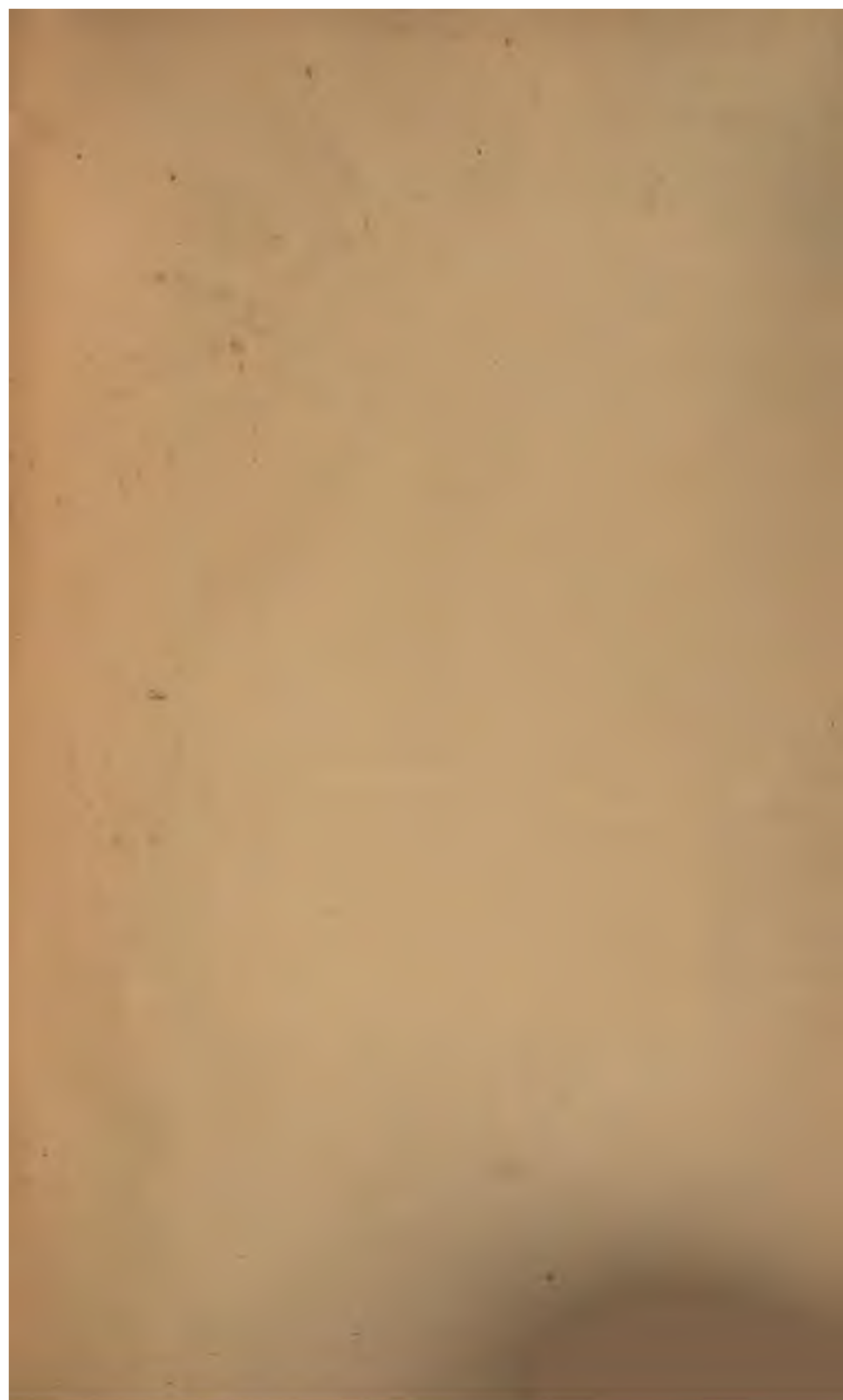
ACNE, - - - -	220	Erythema perneo, - -	312
sebacea, - - -	223	paratrimmum, - - -	313
punctata, - -	224	multiforme, - - -	313
miliaris, - -	225	nodosum, - - -	316
simplex, - - -	226	FAVUS, - - - -	268
indurata, - -	228	etiology, - - -	269
treatment, - -	270	treatment, - - -	270
Æsthesiometer, -	44	Fissures, - - - -	31
Alopecia areata, -	285	Furuncles, - - -	307
histology and etiology, -	289	treatment, - - -	308
treatment, - -	294	HERPES, - - - -	245
Anæsthesia, - - -	33	Hyperæsthesia, - -	33
Anatomy, - - - -	1	ICHTHYOSIS, - - -	213
Arectores pilorum, -	21	prognosis, - - -	216
BLOOD-VESSELS, -	10	histology, - - -	217
Bullæ, - - - -	31	etiology, - - -	217
CHLOASMA, - - -	253	treatment, - - -	217
treatment, - -	254	Impetigo contagiosa, -	296
Classification, - -	46	etiology and histology, -	297
Plenck's, - - -	47	treatment, - - -	301
Willan's, - - -	48	Intertrigo, - - -	302
Alibert's, - - -	48	treatment, - - -	303
Hardy's, - - -	49	KELOID, - - - -	326
Hebra's, - - -	49	histology, - - -	328
Author's, - - -	52	treatment, - - -	329
Connective tissue, -	2	LEPROSY, - - - -	200
Corneum, stratum, -	3	history, - - - -	200
Corium, - - - -	4	nomenclature, - -	201
Cutisector, - - -	43	varieties, - - -	201
DIAGNOSIS, - - -	37	histology, - - -	201
ECZEMA, - - - -	143	symptoms, - - -	206
acute, - - - -	144	etiology, - - -	211
vesicular form, -	144	treatment, - - -	211
papular form, - -	147	Lesions, - - - -	11
fissured form, - -	148	Lichen planus, - - -	330
exfoliative form, -	148	treatment, - - -	332
of the scalp, - -	149	Lichen ruber, - - -	332
of the beard, - -	150	histology, - - -	335
of the axilla, - -	151	etiology, - - -	337
of the genitals, -	151	treatment, - - -	337
of the hands and feet, -	152	Lichen scrofulosorum, -	337
chronic, - - - -	152	prognosis, - - -	338
spurious, - - -	153	histology, - - -	338
histology, - - -	157	treatment, - - -	338
treatment, - - -	161	Lupus erythematosus, -	97
Elastic fibres, - -	164	vulgaris, - - -	97
Elephantiasis (Arabum), -	2	Lymphatics, - - -	11
etiology, - - -	318	MALPIGHI, stratum, -	3
histology, - - -	320	Meissner's corpuscles, -	12
treatment, - - -	321	Molluscum contagiosum, -	342
Epidermis, - - -	322	etiology, - - -	343
Erythemata, - - -	3	histology, - - -	344
Erythema simplex, -	311	treatment, - - -	346
	311	Molluscum fibrosum, -	340

INDEX.

ACNE, -	220	Erythema perneo.	312
sebacea, -	223	paratrimmum, -	313
punctata, -	224	multiforme, -	313
miliaris, -	225	nodosum, -	316
simplex, -	226	FAVUS, -	268
indurata, -	228	etiology, -	269
Æsthesiometer, -	44	treatment, -	270
Alopecia areata, -	285	Fissures, -	31
histology and etiology, -	289	Furuncles, -	307
treatment, -	294	treatment, -	308
Anæsthesia, -	33	HERPES, -	245
Anatomy, -	1	Hyperæsthesia, -	33
Arectores pilorum, -	21	ICHTHYOSIS, -	213
BLOOD-VESSELS, -	10	prognosis, -	216
Bullæ, -	31	histology, -	217
CICLOASMA, -	253	etiology, -	217
treatment, -	254	treatment, -	217
Classification, -	46	Impetigo contagiosa, -	296
Plenck's, -	47	etiology and histology, -	297
Willan's, -	48	treatment, -	301
Alibert's, -	48	Intertrigo, -	302
Hardy's, -	49	treatment, -	303
Hebra's, -	49	KELOID, -	326
Author's, -	52	histology, -	328
Connective tissue, -	2	treatment, -	329
Corneum, stratum, -	3	LEPROSY, -	200
Corium, -	4	history, -	200
Cutisector, -	43	nomenclature, -	201
DIAGNOSIS, -	37	varieties, -	201
ECZEMA, -	143	histology, -	201
acute, -	144	symptoms, -	206
vesicular form, -	144	etiology, -	211
pustular form, -	147	treatment, -	211
papular form, -	148	Lesions, -	11
fissured form, -	148	Lichen planus, -	330
exfoliative form, -	149	treatment, -	332
of the scalp, -	150	Lichen ruber, -	332
of the beard, -	151	histology, -	335
of the axilla, -	151	etiology, -	337
of the genitals, -	152	treatment, -	337
of the hands and feet, -	152	Lichen scrofulosorum, -	337
chronic, -	153	prognosis, -	338
spurious, -	157	histology, -	338
histology, -	161	treatment, -	338
treatment, -	164	Lupus erythematosus, -	97
Elastic fibres, -	2	vulgaris, -	97
Elephantiasis (Arabum), -	318	Lymphatics, -	11
etiology, -	320	MALPIGHII, stratum, -	3
histology, -	321	Meissner's corpuscles, -	12
treatment, -	322	Molluscum contagiosum, -	342
Epidermis, -	3	etiology, -	343
Erythemata, -	311	histology, -	344
Erythema simplex, -	311	treatment, -	346
		Molluscum fibrosum, -	340

INDEX.

Molluscum fibrosum, etiology,	340	Scleroderma treatment,	366
histology,	340	Scrofulides, The,	75
treatment,	342	general characters,	76
NAILS, The,	22	course and duration,	79
Nævus,	304	varieties,	82
Nerves,	11	erythematous,	83
PACINIAN corpuscles,	12	corneous,	86
Pain,	33	pustular,	87
Papillæ,	4	tubercular,	90
Papules,	31	histology,	104
Pathology,	29	treatment,	114
Pemphigus,	347	Sebacæous glands,	15
course and prognosis,	351	Sebum,	27
histology,	347	Skin-microscope,	40
treatment,	352	Skin-grafting scissors,	42
Phtheiriasis	264	Strophulus,	369
capitis, 150,	264	treatment,	370
corporis,	264	Surface thermometer,	43
pubis,	266	Sweat, composition of,	26
Phytosis versicolor,	281	Sweat glands,	14
Pityriasis,	192	Symptomatology,	33
histology,	194	Syphilides, The,	58
etiology,	197	erythematous,	60
prognosis,	198	papular,	61
treatment,	198	tubercular,	61
Prurigo,	355	vesicular,	62
histology,	358	pustular,	62
treatment,	359	squamous,	64
Pruritus,	33	histology,	65
Psoriasis,	177	diagnosis,	66
varieties,	177	prognosis,	67
course,	179	treatment,	68
subjective, symptoms,	181	TRICHOPHYTOSIS,	273
complications,	182	capitis,	274
etiology,	182	barbæ,	276
histology,	183	corporis,	278
treatment,	184	genito-cruralis,	279
Purpura,	352	Tubercles,	31
etiology,	354	ULCERS,	31
treatment,	355	Urticaria,	237
Pustules,	31	histology,	238
RHEUMIDES, The,	124	etiology,	239
nature,	128	treatment,	239
general characters,	134	VERRUCÆ,	309
treatment,	135	Vesicles,	31
Rodent ulcer,	99	Vitiligo,	370
Rosacea,	231	etiology,	372
histology,	233	histology,	372
etiology,	234	treatment,	374
treatment,	236	XANTHOMA,	248
SCABIES,	256	histology,	249
etiology,	258	etiology,	251
treatment,	262	prognosis,	252
Scales,	31	treatment,	252
Scleriasis,	366	ZOSTER,	240
etiology,	368	symptoms,	241
treatment,	368	prognosis,	241
Scleroderma,	361	histology,	242
histology,	365	treatment,	243



LANE MEDICAL LIBRARY

To avoid fine, this book should be returned on
or before the date last stamped below.

--	--	--

